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Address.

THE PHYSICIAN'S CALLING AND EDUCATION.*

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PEORIA, ILL.

I have hope and wish that the nobler sort of physicians will advance their thoughts, and not employ their time wholly in the sordidness of cures; neither be honored for necessity only; but that they will become coadjutors and instruments of the divine omnipotence and clemency in prolonging and renewing the life of man.—Bacon.

Love for true, wise and heroic men and women is part of our love of life, which is a craving for more perfect and abundant life. They show us how blessed a thing it is to be a genuine man. They confirm our faith in the worth and sacredness of conscious existence, and make our standards of value real and palpable. They convince us that within and beneath and beyond all that appears is the creative Spirit who knows and loves and is good. They make it plain that he has not lost his cunning, but is still with us as he was with our fathers of old. They give us confidence that life shall not be emptied of its spiritual content; that a race which has learned to believe and hope, to think and do, can not descend into the sloughs of sensual indulgence and there lie in brutish indifference. What no one has done we imagine can never be done, and these sages and heroes reveal to us new possibilities. When they appear a new quality of life diffuses itself. They may do what all the world is doing, but it is not the same. They breathe a purer air, they are uplifted and borne on by higher thoughts and diviner impulses; they need not money nor recognition nor any kind of worldly success to make them our benefactors and masters. In their presence financiers, inventors and battle-winners dwindle. These deal with life's circumstances; they drink at the eternal fountain-head. Mental and moral force, like the physical, propagates itself, and the influence of the wise and good is transmitted to ever-enlarging circles. To hear of great achievements is to feel a new impulse to fresh resolve. We gain from them a higher conception of the meaning of life, and of the marvels that lie within the reach of whoever has faith and industry. So a noble man, though dead, still lives for those who knew him or get tidings of him, and he is often more helpful so than when he moved in bodily presence. So long as there are those who meditate and love the lives of noble and just men, the race of noble and just men can not perish.

Thanks to God who makes us and to the human heart by which we live, such men are found everywhere. Neither learning nor wealth nor high place is required that they may exist. Their power springs from within where great thoughts, high aims and loving dispositions are born and nourished. They may or may not have genius or fame. They may dwell in solitude or mingle with the restless crowds that pour through the thoroughfares of populous cities; they may be of exalted or of humble birth; they may follow the plow or sway the minds of listening multitudes. Their worth lies in themselves—in the spirit in which they act—and not in the circumstances by which they are environed. Whatever their worldly fortune, they are true to their deepest insight, pure in mind and heart, modest, unenvious, free from vanity, from the desire to shine and to become a theme for idle tongues, consenting to be made conspicuous only at the command of duty, happy in the good they do, not in the praise or the money they receive, holding themselves aloof from controversy and intrigue, intent on their own improvement and that of the environment in which their lot is cast, and rejoicing when leisure is given them to take refuge from the cares and labors their business or profession involves and imposes in the solitude and obscurity where best opportunity is afforded to grow in wisdom and in freedom.

Thoughts like these spring unbidden when we turn to the character and work of him to do honor to whose memory we have come together. He was fortunate in the circumstances of his life, but more fortunate in having within himself something higher and worthier than circumstances can provide. He was one of the happy and hardy band who are born where Nature holds her primal sway and challenges the soul to become itself; who from their earliest days are brought face to face with what is great and abiding, with the solid earth and the heavens made glorious by the rising and setting sun or beautiful by the waxing or waning moon, or sublime and awful by the intermingling mystic light of countless stars; who dwell with the changing seasons until all their thoughts and dreams are enriched and colored by the radiance and freshness of spring, by the abounding fragrant wealth of summer, by autumn's splendor and tranquillity, and by winter's white purity and crisp energy; who, felling trees or feeding kine, store for themselves a treasure-house of courage and firm resolve whence they may draw rich nourishment through all the coming years of toil and struggle. There is iron in their blood and the full, deep throb of conquering strength in their pulse-beat. Thrown back on Nature and on themselves, they are made aware of the almightiness of God revealing itself in both. It is he who, tossing the celestial orbs, as a child its toys, bids them spin forever in abyssal space; it is he who lifts the oceans on high and scatters them over the thirsty earth as a gardener waters

* Address at the memorial service for the late Dr. Nathan S. Davis, held in Powers' Theater, Chicago, Oct. 23, 1904.

his flowers. No man nor all the race of man has made the world in which these young souls live and are exalted and urged to high thoughts and deeds.

To the age of 16 young Davis worked in the fields, tilling, reaping and garnering, spring, summer and autumn; and when winter's frost made such labor impossible, he went to school. Little of the learning that is found in books could he, under such conditions, make his own, but the little he acquired gave him a thirst for more; and his father (his mother having died when he was but 7), persuaded by the youth's eager desire for knowledge, sent him to a seminary, where, however, he was permitted to remain but for a single session; and it was with this scant intellectual equipment that he began, in 1834, the study of medicine. It was only in the latter part of the eighteenth century that medical schools were founded in the United States—first in Philadelphia, then in New York, and later still at Harvard University; but even into the earlier half of the nineteenth century the custom of apprenticing students of medicine to practicing physicians still prevailed; and Davis' initiation into the science to which he had resolved to devote his life was made in the office of Dr. Daniel Clark, which he soon left for the College of Physicians and Surgeons of Western New York, where he was graduated in 1837, when he was but 20.

Here, then, is a country youth who, with scarcely any mental culture or intellectual discipline, quits the plow to take up the study of a learned profession which, to be mastered and followed with ability and skill, requires a large acquaintance with philosophy, history and natural science; and who, notwithstanding, within less than three years receives license to practice medicine, to experiment on the lives and fortunes of his fellow-men.

His talents, his industry and his earnestness were doubtless exceptional, but the social conditions which rendered such a state of things possible were primitive, not to say barbarous; and it is a convincing proof of Dr. Davis' strength of mind and character that he was not misled by his great gifts, to imagine that even genius can, without the best education, make a competent physician. His own lack of opportunity made him eager to provide opportunity for others.

He was a born teacher, and he had hardly begun to practice when he gathered in Binghamton a little following of medical students whom he instructed and inspired. In 1843 he was sent as a delegate to represent his county society at the annual meeting of the New York State Medical Association in Albany; and it was there that he made his first appeal for a higher standard of medical education. An individual may honor and serve his profession in various ways, but in none possibly so effectually as by creating a demand and providing opportunities for the more thorough education of its members. Dr. Davis' plea was not unavailing, and at the next annual meeting of the state society a call was issued for a national convention of delegates from medical colleges and societies throughout the Union to deliberate on the best measures to improve medical education. The outcome was the organization of the American Medical Association, a permanent body, whose influence for good has been and is deep and widespread. The defenders of dying causes may be heroes, but most fortunate are they who are called to do a work which the course of events furthers and prospers, whose issue is emancipation from ignorance, sin and suffering.

There is nothing in the history of the nineteenth century for which we may be more justly or profoundly thankful than for the rapid and wonderful advance made in the knowledge of the causes and cures of disease. From the time men began to think, they began to consider how sickness and death might be, if not overcome, at least mitigated or postponed; nor was their thinking altogether vain or profitless. The Egyptians and the Hebrews, still more the Greeks and the Romans, arrived at some insight into the laws of health and the treatment of disease. Hippocrates and Galen are great names, but their value for us is historic, not scientific. Hippocrates was born 400 years before Christ, and from that date to about the middle of the nineteenth century there was relatively but little progress in medicine. Here and there, indeed, we meet with physicians or surgeons of special ability or skill. Harvey's discovery of the circulation of the blood in the seventeenth century was important. Sydenham, by his insistence on the necessity of careful observation and on the healing power of Nature, rendered valuable service. In the eighteenth century Boerhaave, whose fame was probably greater than that of any physician who has ever lived, whose attainments were as surpassing as his character was benevolent and pure, contributed nothing of an essential importance to the science of medicine. In the eighteenth century, too, we have Dr. John Brown, whose teachings are said to have destroyed more lives than the wars of Napoleon, of whose school our own Benjamin Rush was a follower.

The most important contribution to medical progress in the eighteenth century was made by Jenner, when, in 1796, he introduced vaccination as a prevention of smallpox; for he not only discovered the means by which one of the worst scourges has been practically eliminated, but he opened the paths along which the most wonderful advance has been made. When Dr. John Hunter, whose pupil he was, said to him, "Do not think, investigate!" he announced the opening of a new era in medical history. The starting point was the systematic employment of scientific methods of research. Experiment as the best means of arriving at accurate knowledge is not a discovery of the nineteenth century, but the nineteenth century provided facilities and laboratories for scientific investigation, and so made it possible for medical students to observe, analyze and determine with precision the functions and conditions of the organs and tissues of the body in health, their pathologic changes, the causes of disease and the means of prevention or cure. The result was that in the nineteenth century medicine became a new science, which made most of what had been taught in the past a mere curiosity of literature. All the vital organs, all the phenomena of life, were examined in the scientific spirit, and as knowledge grew it was perceived that a single organ might afford sufficient matter for the study of a lifetime.

Many physicians consequently limited their field of investigation to the diseases of special organs, or to the diseases of women or of children, and to the labors of these specialists is due much of the progress which has been made in the ascertainment of fact and in the best methods of treatment. The greatest medical triumphs were won in the realm of the infinitesimal beings that, unseen, swarm and multiply within and about us everywhere. Bacteriology was born of the philosophic doubt, which for ages had engaged the attention of acute minds concerning the origin of life. Is the living born

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of the dead? For centuries the weight of opinion had inclined to give an affirmative answer, so far, at least, as the lowest organisms are concerned. The theory of spontaneous generation prevailed far into the nineteenth century. It seemed, indeed, to be an implication of the theory of evolution which tended more and more to take possession of the modern mind. It would have supplied the missing link in the chain of causation. Hence in scientific minds there was a bias toward its acceptance. It adapted itself to the pantheistic or materialistic world views which were gaining wider and wider acceptance. To doubt its truth was to retrograde. But the brutal fact established by scientific experiment showed the hypothesis to be a delusion, that the plain truth is that whatever has life is born of the living. Pasteur, probably the greatest benefactor of the human race in the nineteenth century, proved in 1861 and again in 1876, that the theory of spontaneous generation is without foundation in fact, and contrary to all the evidence which scientific research can adduce. The consequence was that bacteriology became a science, and the causes of all the phenomena, whether of health or of disease, began to be sought for in the activities of living organisms, the smallest known, and belonging for the most part to the vegetable kingdom. They upbuild and they break down all the larger forms of life. They are the mighty armies on whose banners is inscribed the axiom, "Who despiseth small things shall little by little be brought to ruin."

Bacteriology has furnished a solid basis for preventive medicine, which has conferred and is capable of conferring more and more as its principles receive wider application, benefits on mankind, that make the triumphs of industrialism of minor importance.

More than 250 years ago, Descartes, the most original mind of the modern age, who, more than any other thinker, has determined the course both of speculative and of scientific inquiry, declared that if any great improvement in the condition of mankind was to be brought about, medicine would provide the means, and what he foresaw we see. The discovery that nearly all the worst diseases which afflict the human race are due to the action of minute organisms directed the attention of educated physicians to the exclusion of these organisms, or, if this be impossible, to investigations which should show how their baneful action might be prevented. The cause which creates a disease being known, the physician's business is to learn how to remove it or to neutralize its effects. Bacteriology has revealed to us the infinitesimal organisms that produce many of the gravest maladies to which man is subject—Asiatic cholera, diphtheria, typhoid fever, typhus fever, yellow fever, smallpox, the bubonic plague, tuberculosis, pneumonia, hydrophobia, leprosy, venereal diseases, puerperal fever and malaria. These are all germ diseases which it is possible to prevent or cure. Some have ceased to be a cause of alarm to the civilized nations—smallpox, for instance, Asiatic cholera, typhus fever, the bubonic plague and puerperal fever. When vaccination is rightly employed, smallpox wholly disappears. When filth and overcrowding are abolished, where there is good sewerage and pure drinking water, typhus fever, Asiatic cholera, yellow fever and diphtheria will hardly be found. The bubonic plague has no terrors for the peoples of Europe and America. Puerperal fever, which formerly destroyed each year the most precious lives of thousands of mothers, is now almost unknown, the mortality from this cause being only about .07 per cent. Physicians themselves carrying the infectious germs from bedside to bedside were the agents of death, which ignorant and heedless physicians are always in danger of becoming.

When it became scientifically certain that many of the worst diseases are produced by bacteria, it was plain that the principal occupation of the physician and surgeon should be concerned with the exclusion of poisonous germs or with the means by which their baneful action might be suppressed. This led to the employment of antiseptics and antitoxins. The miracles of modern surgery are due not so much to the superior skill of our operators as to their knowledge of the means by which inflammation and suppuration may be prevented. Sepsis is a Greek word which means putrefaction, and antisepsis is the science and art of preventing putrefactive processes. The appalling death rate following surgical operations thirty or forty years ago, is not to be ascribed to imperfect anatomic knowledge or lack of manual skill, but to infection caused by disease-producing germs which, introduced into the body by contact with the air or with any object whatever, in which they had not been destroyed, multiply and sow the seeds of death with incredible rapidity. Asepsis, based on the germ theory of infectious diseases, now enables the surgeon to operate with comparatively small risk in cases in which formerly the dread of some form of blood poisoning deterred him from attempting to save his patient. Surgery has consequently become a new and most beneficent art, anesthesia rendering the operation painless, while asepsis excludes infection. The progress of pathology and therapy, if less striking, is not less real, and will doubtless in the next quarter of a century overshadow the triumphs of surgery. The field in which it works is vaster, and its methods reach deeper, touching the roots of the ills from which relief is sought. The living body has within itself a greater or lesser power to resist the attacks of the foes to health, and there have never been lacking practitioners or schools to teach that in the treatment of disease the chief reliance is in the healing force of nature. The blood and tissues, in their normal state, have a germicidal efficacy which varies with the special diatheses of individual constitutions. There are vigorous natures which seem to have the power of resisting the action of all poison-producing bacilli, while others afford no hold to certain specific germs. In our cities the bacteria of tuberculosis, pneumonia and influenza are in the air and are inhaled by all, but fortunately they find a suitable lodging place in but comparatively few. Then there is in the blood a regular army of white cells or leucocytes, whose function is to repel and destroy the intruding enemy. They are the divinely appointed defenders of life's fortress, to whom the secret of Nature's medicinal power is entrusted. They change or neutralize the toxins generated by the poison germs, and elaborate antitoxins; and when the victory has been gained and recovery has taken place, the patient has acquired at least a temporary immunity from the disease which has been eradicated. Insight into this fact has led to the discovery and employment of serum therapy, whose efficiency has wrought a transformation in medical practice, and promises, as knowledge grows, yet greater things. In one who has had the smallpox the conditions which favor the spread of the poison have been destroyed. The question suggests itself whether by introducing into the system the specific poison in a milder form, equal immunity may not be acquired. This methodical doubt led Pasteur to the discovery of

serum therapy, which by the injection of the serum of the infected blood prevents or cures the disease. Its efficacy in the treatment of diphtheria, hydrophobia and various diseases of animals has already been abundantly proven, and there is good reason to believe that the research of specialists will enlarge the field of its prophylactic or curative power, until it shall be universally recognized as the opening of a new epoch in the history of medical science and practice, an epoch in which new and accurate knowledge of the causes and nature of disease shall lead to new and efficacious methods of prevention or treatment. Drugs will not be discarded, but their action will be scientifically investigated and confidence in their therapeutic value will diminish.

It was Dr. Davis' good fortune to begin the study of medicine when this great transformation was about to take place; and, like the good, wise and far-seeing man he was, he understood that the physician could no longer be permitted to be but an empiric.

From the early years, when he helped to found the American Medical Association, to the close of his long life, he was the tireless champion of higher medical education. He thoroughly understood that a science which embraces the whole of human life, physical and psychical, can never be mastered by those whom mental culture and discipline have not prepared for its study. Men of exceptional talent and industry may surmount obstacles which for the many are insuperable; but the standard of professional attainment must necessarily remain low so long as a proper preliminary education is not required of all who offer themselves for matriculation. The physician who is not also a scholar may be a more or less successful practitioner, but his influence will be confined, his methods mechanical and his interests narrow. The doctor, the lawyer and the minister of religion can do but inferior work, unless to a knowledge of their several sciences they bring the insight, the wide outlook, and the confidence which nothing but intimate acquaintance with the best that has been thought and said can confer. The more accomplished the specialist, the greater the need of the control which philosophic culture gives.

The lack of opportunity for his own mental training made Dr. Davis the more eager to provide it for others. His life in Chicago was identified with the educational, moral, scientific and sanitary history and progress of the city. He was among the first to urge the need of a supply of pure water and of an adequate system of sewerage; and in a course of public lectures he showed how this might be accomplished. With the money charged for admission, he laid the foundation of Mercy Hospital. He was a Methodist, not a Catholic, but his vigorous mind and noble character taught him that prejudice is ignorance or imbecility, and that where suffering is to be relieved, where good is to be done, all, save the blind or the perverse, are drawn together to help and to cheer. The more angels, the more room, and the greater the misery the more do noble natures feel that there is place for all who have good will and the desire to serve. Great minds and loving hearts offer boundless hospitality. When the Chicago Medical College was founded, its more exacting requirements for admission and graduation could not but win the sympathy and approval of Dr. Davis, and, heedless of the loss and sacrifice, he resigned his professorship at Rush to take one in the new institution, of whose faculty he continued to be a member for more than forty years.

He was a leader in the organization of the Illinois State Medical Society, of which he was elected president, and which he served as secretary for twelve years. For six years he was editor of THE JOURNAL of the American Medical Association, which he placed on a solid financial basis. If genius be exceptional capacity for work, Dr. Davis had genius. His industry was tireless, his painstaking unwearying. In the midst of the onerous duties of a large private practice, in the midst even of unremitting ministrations in times of epidemic, he still continued to teach, to write, to edit, co-operating meanwhile in any movement for the common good to which his attention might be called.

He was one of the founders of the Northwestern University, the Chicago Academy of Science, the Chicago Historical Society, the Illinois State Microscopical Society, the Union College of Law, and of the Washingtonian Home.

"The essence of greatness is the perception that virtue is enough," says Emerson in his fine way. Perception, indeed, is not and can not be the essence of anything, but he who has insight into the fact that the end of life is moral, is conduct and character, understands wherein the essence of greatness consists. It lies, like the kingdom of heaven, within. Title, office, possessions may or may not be its accompaniments. Vast knowledge even gives no assurance of its presence; for it is what a man believes, hopes, loves, admires, yearns for and does rather than what he knows. Only they whose existence is upborne and illumined by a high and holy purpose are interesting or have intrinsic value. The rest are busy with what they shall eat and wear, with how they shall be housed and attended, and pass their existence on the low plain of appetite and vain desire. Dr. Davis was more than a learned and skillful physician; he was a genuine man filled with religious and moral fervor and zeal. He might have grown rich, but he died poor. He felt like Agassiz, that he had no time to get money. Had he possessed the wealth of the founders of universities, his chief significance and value would still have lain in himself—in his rectitude of purpose, in his desire to teach men how to live, in the simplicity and honesty of his life, in his love of truth and justice, in his high-mindedness, purity and benevolence, in his freedom from envy, jealousy and pettiness.

In every profession there are men without principle or character who prefer success to virtue, whose predominant passion is greed, who to get money are ready to prey on the weaknesses and miseries of their fellows, who, like the ghouls that gather wherever great calamities befall, consider the helplessness and sufferings of their fellows but opportunities for plunder; and since a man is willing to give all he possesses for health, and since whoever can pay can advertise, the healing art offers the most inviting field for these hyenas in human shape; and therefore the medical profession, more than law and quite as much as the sacred ministry, is most commended and honored by men who to scientific attainments add the essential and abiding worth of moral character. If it be true that an orator is first of all a good man, one who inspires confidence, who is himself more eloquent than words can be, it is also true that a physician should first of all be a man of moral worth, of principle, of probity, of honor, of benignity and heroic unselfishness. If confidence in him as a man be lacking, the wise will hesitate to put trust in the exercise of his professional knowledge and skill; and confidence is half the cure, since in his power to inspire hope, a cheerful and brave spirit, lies, in most cases, the

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secret of a physician's success. Boerhaave, whose reputation surpasses that of all other physicians, to whom letters addressed "to the most famous physician of Europe" were sure to be delivered, wrought, it is said, more cures by his presence than by his remedies. However great one's science or skill, the foundation of the trust we place in him must be laid by his moral worth. Knowledge does not of itself determine will or form character, and one may know many things and be only the greater villain.

The trend of the most recent theory and practice in education is to lay chief stress on intellectual ability and technical skill, and to hold lightly the convictions of those who are persuaded that human life is essentially conduct, and that the everlasting fountain-head by which right doing is fed is religious faith, which alone can build the foundation of a rational belief in the absolute worth and sacredness of man, as revealed by his origin and destiny.

The ideal is that of the calculating understanding in the service of the senses. Get money, and whatever is desirable shall be thine. Succeed, by fair or foul means, and the world will do thee homage. Make thyself able, strong and skillful, and thou shalt have small need of virtue.

Dr. Davis was a lover of knowledge, a life-long student, a chief promoter of medical organization in this country, and the tireless, persuasive advocate of the need in his own profession of higher and more thorough education. His mind was vigorous and alert, his intellectual curiosity drew him ceaselessly to scientific inquiry, his temper was judicial, his power of diagnosis was exceptional; but his religious, virtuous life, his sobriety, his tolerance, his largeness of thought and sympathy, his independence, his sense of justice, his desire to be of help, his fearlessness in the assertion and maintenance of right, his indefatigable zeal for the promotion of temperance and morality—his character—gave him a distinction which belongs to but few in any profession. He himself is greater than his knowledge, than his deeds, than his reputation. "The chief need," says Seneca, "is of great teachers." Dr. Davis was a great teacher, and, like all teachers of essential vital truths, his highest lessons are taught by his life more than by his words.

In the midst of the crowd of adventurers, of the rabble of fortune seekers, in which he found himself when first he came to Chicago, he walked the narrow path among them like a ministering spirit, but not of them; and when the town of twenty thousand had grown to be a city of a million and a half of inhabitants, he, where all had changed, remained steadfast, true to God, to himself and to the service of his fellow-men, faithful to the old principles which assert religion, conduct and character to be the aim and end of life. For him duty is a divine impulse, and honor, the finest sense of duty. The patient who called him became as sacred in his eyes as is the penitent in the presence of the priest. What he learned was as though he knew it not. The body is not separate from the soul, and, like it, is sacred. He who ministers to the infirmities of the one, helps the other. The physician and the priest are near kin, and in all ages have been held to be so, though like near kin they have had their quarrels. Both recognize that moral good is the essential good; that if men had but virtue enough, they would have health and happiness enough.

Progress in etiology and diagnosis has confirmed the belief that the root of evil lies not in the stars, but in ourselves.

Men are most prone to lie to themselves, and most willing to be lied to, when there is question of their health and morals. They will lay their infirmities and faults to anything in the wide universe but themselves. Whether there is question of medicine or of religion, their unwillingness or inability to employ the right preservatives or remedies lies in their unwillingness or inability to lead right lives. We make ourselves the victims of greed, lust, gluttony, drunkenness, envy and hate, and find what comfort we may in denouncing doctors and priests. And doctors and priests, who, if they are not better, are worse than laymen, are forever tempted to palter, to flatter, lacking the courage to unveil truth to the easily shocked eyes of lechers, drunkards, gluttons, thieves and tricksters, if, having money and position, they can make or mar. They are forever tempted to prove false to their deepest knowledge and insight, to compromise where compromise is betrayal, to indulge where indulgence is ruin, to administer palliatives when there is no hope but in radical change. This false and cowardly attitude undermines character, confuses knowledge, and destroys the power to inspire confidence in those who are ill that they shall be made whole.

In the presence of the all-pervading self-indulgence and self-deceit which lust and pride and greed beget, we are made conscious of the transcendent worth of a man like Dr. Davis.

In him the average sensual man, who is every man, can find little comfort. He sees the fact and speaks plain. Between him and the possibility of quackery there lie infinite worlds. Between him and the expert who values his professional ability chiefly for its power to exact large fees, there lie infinite worlds. Between him and the crowd of the prosperous, who believe that a man is worth not what he is, but what he possesses, there lie infinite worlds.

Into the valley of the Mississippi, made fat and fertile by the slow but ceaseless action of natural forces during epochs of indefinable length, there has come suddenly a race, provided with the highest religious, moral and scientific power, a race of exceptional vigor and of most fortunate historic experience. In brief time we have developed here a material civilization whose wealth and promise is a world-wonder. What hitherto it had taken thousands of years to bring about, has been accomplished in half a century. But we ourselves have not grown as our prosperity has increased. We have succumbed to our success. We have vast riches, and all the comfort, luxury and display which money provides, but our thoughts are superficial, our sympathies shallow, our desires selfish or sensual, our aims and ambitions vulgar.

Like those who, in the midst of unending waters, die of thirst, we, having all that earth's bounty can give, have lost the secret and the art of leading a worthy and a happy life, because we have ceased to be either willing or able to believe that souls live by faith, hope, love and imagination, in the light of high ideals, and in the glow and warmth of self-devotion to what is forever true, and good and fair. We measure human worth by mechanical standards, the value of life by the opportunities it affords for the indulgence of appetite or vanity. We are feverish, restless, timid and uncertain. In our very strength and energy there seems to be something akin to disease. We can neither work nor play in moderation. The wisdom of those who are con-

tent with what suffices is in our eyes folly. Hence it is easy for us to become gamblers, promoters, givers or takers of bribes, drunkards, and suicides; and in the midst of the dazzling spectacle of our national progress, it is a question whether our millionaires or our toiling, hard-driven wage-earners, are more discontented and unhappy.

With us everything improves—mechanical devices, the breeds of domestic animals, the qualities of vegetables and fruits—man alone is stationary or retrograde, because his nature, being essentially moral and religious, the worship of vulgar success, the indulgence of appetite, the preference of the external and transitory to the real abiding world within, make religion and morality impossible.

From the midst of such a world, a man like Dr. Davis rises, like one inspired, to proclaim by word and deed, that righteousness is life, that the wages of sin is death, that whatsoever thing a man soweth that shall he reap, that sin or culpable ignorance or neglect, which is sin, is the cause of nearly all the diseases, ills and miseries by which we are brought to ruin.

To the learned professions especially his teaching and his example declare that they rest not more on a basis of knowledge and skill, than on a foundation of principle, honor and benevolence. His view is generous and comprehensive. Not for his clients alone does the lawyer exist, nor for his penitents, the priest; nor for his patients, the physician.

God makes sages and saints that they may be fountain-heads of wisdom and virtue for all who yearn and aspire; and whoever has superior knowledge or ability is thereby committed to more effectual and unselfish service of his fellow-men. If the love of fame be but an infirmity of noble minds, the craving for professional reputation is but conceit and vanity. To be of help, and to be of help not to mere animals, but to immortal, pure, loving spirits—this is the noblest earthly fate, this, the highest good fortune. In the light of this ideal Dr. Davis believed, hoped, loved, worked, suffered, died and triumphed. When the politicians, the captains of industry, the inventors of mechanical devices, the lavishers of millions to promote whatever ends, shall have sunk into oblivion or be remembered with the contempt of indifference, he shall remain as a witness to right human life, as an influence and encouragement to all who have faith in God, in truth, in justice, in plain, unselfish living, in brave endeavor, in purity and love; a principle of hope and courage, an inextinguishable light to beings who wander amid the labyrinths of time and space, and feel and are certain that their true home is with the Eternal Father who makes and upbears the Universe that beings like unto Himself may be born and grow forever.

Before the Royal College of Surgeons of London, there is delivered an address, each year, to commemorate the life and work of John Hunter. Let the physicians and the medical schools of Chicago bear witness to their love of worth and appreciation of excellence, by making a similar foundation to perpetuate the memory of Nathan Smith Davis.

The Physician Should Insure His Life.—A physician owes much to his family. His peculiar life, his enforced absence, and his irregularity are exasperating in the extreme; therefore, he should offer reasonable compensation by definitely providing for accidents, illness, and death, particularly for the comforts of those who depend on him for their future existence.—*W. W. Lancet.*

Original Articles.

THE SURGICAL TREATMENT OF BILOCULAR UTERUS AND BIFID VAGINA.*

H. W. LONGYEAR, M.D.

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DETROIT.

My object in presenting this subject is to call attention to a simple operative procedure for the correction of one of the numerous forms of anomalous development of the female generative organs which result from faulty evolution in the process of development of the Müllerian ducts.

The strange silence of gynecologic literature appertaining to the therapeutics of these sexual deformities is remarkable, as it would seem that, where possible, their early discovery and correction should be aimed at, rather than allowing such abnormal conditions to continue as a serious menace to the health, and possibly the lives, of their possessors.

The bilocular, double, or septate uterus is usually attended with the same condition of the vagina, the latter being divided by an apparent continuation of the uterine septum into two lateral halves. The cause of the deformity being an arrest of coalescence of the Müllerian ducts, the result is one uterus and one vagina divided by an anteroposterior septum of fibrous tissue in such a manner as to cause the apparent duplication of the organs; thus, to correct the deformity and form one uterus and one vagina, as Nature intended, all that is necessary is to destroy the dividing septum in both vagina and uterus. When this is done, a vagina and uterus, both being rather more capacious than normal, will result, and the two small cervices will be coalesced into one normal-sized cervix. The whole apparatus is thus placed in practically a normal condition, so that gestation and parturition may be assumed in a normal manner.

Others, no doubt, have worked this matter out as is here suggested and corrected the deformity by operative procedure of one kind or another, but beyond the destruction of the vaginal septum, I can find nothing recommended in the text-books, and so I present my method of operating, with report of two cases, which comprises my experience with this particular variety of malformation.

Care is necessary in the selection of the cases for operation, so that a bicornate uterus may not be mistaken for a septate uterus, as it is apparent that the division of the mistaken septum in the former would open the peritoneal cavity. The differentiation is easily made by conjoined examination, so that, with reasonable care, the accident is not liable to happen.

THE METHOD OF OPERATION.

The vaginal septum is first removed in the following manner: Two pairs of long pedicle forceps are made to grasp it along its entire length from the vulva to the two cervices, one anteriorly and one posteriorly, close to the vaginal wall; the tissue between them is then entirely cut away with scissors and trimmed clear from between the cervices at its upper end; the Paquelin cau-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

tery is then applied to the edges of tissue held in the grasp of the forceps, and the latter removed. This plan of removal of the septum insures a bloodless operation and can be accomplished much more quickly than if the parts are cut away and stitched.

The capacious vagina can now be opened widely with a retractor and the two small cervices plainly seen lying closely against each other, with only the edge of the divided septum between them. Both are then dilated sufficiently to facilitate manipulation, the direction of each uterine canal ascertained, and, if necessary, a farther bimanual examination made to be certain as to the shape of the uterus. The dilator is then inserted, with one jaw in each os, and the Paquelin cautery knife thrust between them, cutting the septum to the depth of perhaps an inch. The dilator, which has acted as a shield to the outer sides of the cervix, is then withdrawn and the farther division of the uterine septum up to the fundus is completed with a pair of long, curved, blunt-pointed scissors. The cavity is then curetted, if necessary, and swabbed out with tincture of iodin and packed with iodoform gauze, the latter being continued into the vagina, which is also loosely packed with it.

At the end of four days the gauze is removed and daily vaginal irrigations of carbolized water, followed by sulphate of zinc solution, gr. 3 to ℥ 1, used till the parts in the vagina are healed.

The two cases which have come under my observation were discovered on examination to determine the cause of severe dysmenorrhea, both patients complaining of the persistently increasing pain from month to month.

In the first case only the vaginal part of the operation here proposed was made, and it was the experience with the case following the division of the vaginal septum that determined the trial of the extension of the operation to the removal of the septum in the uterus. The following are the histories of these cases:

CASE 1.—G. R., single, 20 years of age, but in appearance an undeveloped girl of 15. Breasts and labia small and genital hair scanty. Menstruation had occurred irregularly five or six times, each period being more painful than the last, and it was for this symptom that the girl's mother brought her to the clinic at the Woman's Hospital, Jan. 10, 1899.

Examination.—On examination under anesthesia the abnormality was discovered. The vulva was normal, the vagina was divided into two lateral parts by a firm anteroposterior septum which extended from the introitus to the vault, where, on each side of this dividing membrane, a small cervix uteri was felt, with the inner aspect of each lying closely to the septum and adherent to it almost to the os. On passing the sound along the finger into the two uterine canals, the left was found to deviate considerably toward that side, while the right was deflected but little from the median line. The left measured 2½ inches and the right 2¼ inches.

Each cervix was thoroughly dilated, and the patient directed to report occasionally for further observation and treatment. She was not seen again until June 13, 1902, when she presented herself again, through the courtesy of Dr. Samson of Windsor, Ont.

Her general development was then greatly improved in every way, and it was discovered that the members of the left side of her body were more largely developed than the right; the left breast, left arm, leg and thigh, as well as this side of the abdomen, being markedly larger than the opposite corresponding parts. The size of the hands and feet were not different. For several months she had had increasing severe pains at each menstrual epoch, which always began in the right hip and extended across the abdomen. On account of the limited room in the vaginal canal, due to the septum, bimanual examination was unsatisfactory, but a sensitive mass larger than an ovary could be made out in the region of the right ovary, so its removal by abdominal section was decided on, as well as the ablation of the vaginal septum.

Operation.—At the Woman's Hospital, June 14, 1902. The vaginal septum was first removed in the following manner: Its whole length was grasped by two long pairs of pedicle forceps, one anteriorly and one posteriorly, from the introitus to the vault, cut away with scissors close to each forceps, and the edges thoroughly cauterized with the Paquelin cautery. On removal of the forceps no hemorrhage occurred. This left the cervices projecting into a vagina which was rather wider than normal. The abdomen was then opened and a careful examination of the pelvic contents made. The double uterine body was nearly three inches in breadth at the fundus, the right side being somewhat smaller than the left, with a slight indentation marking the junction of the two halves. The left tube and ovary were normal; the right tube was normal, but the ovary was enlarged by a hematoma to the size of a hen's egg, and was removed.

Her first menstruation, while still in the hospital, was attended by the same pain in the back of the right hip. This same pain, occurring at the menstrual epochs, continued to increase in severity and duration after this operation, until Dr. Samson again returned the patient, Jan. 8, 1903, with the opinion that the woman would soon be dead, from either suffering or morphin, unless relieved.

Examination revealed no cause for the pain, but the condition being desperate, the removal of the remaining ovary was determined on for the purpose of bringing on the menopause. At the operation, which was performed at the Woman's Hospital, Jan. 29, 1903, nothing in the line of adhesions or other cause for the pain could be found, and the ovary was normal. It was noted that the right half of the uterus, the side from which the ovary had subsequently been removed, had diminished considerably in size.

A bloody discharge from the uterus, two days after the operation, caused the old pain in the hip, necessitating hypodermics for its relief, and ceasing with the cessation of the discharge. Four months after operation the patient reported no menstruation and no pain. Was becoming very fat.

After the experience with this case the query naturally rose as to the possible rôle the uterine septum had played in the causation of the dysmenorrhea, and whether its removal should not have been first attempted and the ovary left for the *dernier ressort*. It was decided to try it next time, not only for the relief of a possible dysmenorrhea, but for the purpose, as well, of placing the organs in a condition more nearly approaching the normal. Such an opportunity presented itself sooner than expected.

CASE 2.—W. M., servant, 21 years old, single, normally developed in every way. Menstruation began at 13 years of age, always painful, but lately much more so. Sought advice because of the severity of the pain, which was located in the hypogastric region, of a colicky nature, and active only during the first day of menstruation. Is well and strong between periods and able to work.

Examination.—Vulva normal; no hymen; two vaginal openings were found, divided by a thick, loose septum which adhered closely to the right side, and was not at first discovered by inspection. This septum extended from the entrance to the vault of the vagina, where a cervix uteri could be felt on each side of it. Vagina very capacious, each side receiving a large size bivalve speculum. Cervices small and placed close to the septum. Sound passed 2½ inches in each side, the left deviating slightly to that side and the right a trifle toward it. Uterine body felt to be broad and freely movable. Appendages apparently normal.

Operation.—Harper Hospital, Jan. 26, 1904. Vaginal septum excised with scissors, between two forceps (anterior and posterior), and edges cauterized with Paquelin cautery. The two cervices were then successively dilated, and, after introducing and opening the dilator, with one jaw in each side to act as a

shield, the cautery knife was thrust between them into the uterine canal to the depth of about one inch, thus making one os uteri and cervical canal. The dilator was then withdrawn and the balance of the uterine septum cut through by small successive snips with a pair of long, curved, blunt-pointed scissors. The hemorrhage was quite insignificant. Examination with the curette showed the endometrium to be in a healthy condition on each side. The uterus was then swabbed with tincture of iodin, washed out, and both uterus and vagina packed with iodoform gauze.

The patient suffered no pain or discomfort from the operation. The gauze was removed on the fourth day, and carbolic acid and sulphate of zinc douches used while she was in the hospital. She sat up on the tenth day, and was discharged on the fifteenth.

Result.—Reported at office, April 6, 1904. Had had two menstrual periods since operation, both being less painful and flow more free than before operation. Examination showed the vagina well healed; cervix showed no signs of the operation, except that the os was a trifle larger than is usual in a nulliparu, and the remains of the vaginal septum could be discerned on its anterior and posterior aspects. The uterine canal was free, and no remains of the septum could be felt with the sound, excepting a slight projection of tissue of about a quarter of an inch at the fundus, which marked the point of insertion of the septum.

NOTE.—Sept. 30, 1904, patient very well in every way and not suffering from dysmenorrhea.

DISCUSSION.

DR. C. S. BACON, Chicago, said that the obstacle to labor from the septum in the vagina is easily conceivable, but that he can see no reason for cutting the septum in the uterus on account of the pregnancy or to relieve any disturbance during labor. Menstrual difficulties seem to have been the reason for the operation, and it certainly seems remarkable that without further attempts to improve menstruation, ovaries that apparently were normal should be removed. Hematoma of the ovary is not a sufficient reason for removing it; hence, the case is open to criticism. Dr. Bacon said that it is hardly conceivable that a septum can be the cause of difficult menstruation, unless it acts as a mechanical obstruction.

DR. L. H. DUNNING, Indianapolis, has seen cases in which a septum in the uterus and vagina acted as an obstacle to menstruation; both women conceived and were delivered without any operative procedure. In both cases the septum was torn during labor. The first case occurred early in his career and he concluded to leave things to nature, especially as the septum was very thin. The septum was torn in both uterus and vagina, and no accident followed. In the second case the septum was thick and there was a wedge-shaped piece of tissue running from the external os up the cervix. The patient refused operative interference, and she had a very hard labor. The descending head tore its way through the septum, and, incidentally, through the cervix. Dr. Dunning doubts whether it can be laid down as a general rule that the septum in the uterus should be removed by operation. Malformations of the uterus may be found more often than we think. He has seen eight cases, two of them uterus bicornis, and the others of various kinds.

DR. H. T. JOHNSON, Washington, D. C., has seen one or two cases of partial double vagina, in which the trouble was overcome by snipping away the septum. He recalled the case of a woman living in the country who had a miscarriage. She came to the city to be curetted, on account of a more or less continuous flow after the miscarriage. She recovered from the operation, went to New York, and remained there for several months. In the meantime her abdomen increased gradually in size, but as it caused her no inconvenience she did nothing about it. One evening, however, she had a very severe pain and was taken to the hospital of Dr. L. G. Wylie, who delivered her of a five months fetus. Dr. Johnson could not explain it at all, as he had curetted thoroughly. Later he received a letter from Dr. Wylie describing a perfect double uterus. The patient had had a miscarriage in one side of the uterus while a pregnancy existed in the other, and it was fortunate that he did not get the curette into the pregnant side.

DR. J. H. CARSTENS, Detroit, said that he had had similar cases in his practice. Eighteen years ago he attended a lady who had had a miscarriage. There was nothing unusual about it, but after six or eight months she had another miscarriage, and after a time she had a third miscarriage. The placenta was retained and he was obliged to remove it. Then he found that there was something wrong. The placenta was over on one side, but during his manipulation he found a septum extending down to the internal os, the external os being normal and the fundus normal; the septum was the only thing abnormal. Some months later he dilated the cervix with sponge tents and removed the entire septum, making one uterine cavity. In about three months she became pregnant again and was delivered of a full-term child. After that Dr. Carstens had a case of septum passing through the uterus and vagina. He removed the septum so as to make only one cavity. In order to prevent adhesions of the uterine walls after removing a septum, he always swabs out the uterine cavity with strong carbolic acid. He has had several cases where he could not operate because of the shape of the uterus, the fundus being depressed, making a sort of bicornate uterus. In order to make an operation permissible there must be only one septum and a normally-shaped uterus.

DR. W. B. DORSETT, St. Louis, operated on a case recently and found a double vagina and uterus. The patient was very fleshy and it occurred to him that it would be a rather hazardous procedure to carry the incision all the way up to the fundus, as he might enter the abdominal cavity, or it might have been a case of bicornate uterus and not merely a septum in the uterus, so he divided the septum in the vagina and as far as the internal os into the uterus. Several years ago he was called in consultation in a case of labor with a septum in the vagina. The child's head had come down well until it met this band, which prevented its further descent. He cut it and the labor proceeded without further trouble. These septa are not alike. Sometimes they consist merely of mucous membrane, while at other times they may contain some circular and longitudinal muscle fibers and frequently troublesome blood vessels.

DR. H. W. LONGYEAR said that the case reported by Dr. Dunning shows the beneficial results following division of the septum. Removing the ovary in the first case to stop menstruation was not advocated as a method of treating these cases. The removal of a normal ovary is always a subject for difference of opinion, but here was a case of abnormality in every way. The whole individual was abnormal; all the soft parts were abnormal, and the excruciating pain necessitated the administration of morphin for two weeks out of the month; and she was not a morphin fiend. He had had the opinion of an excellent practitioner who had been her physician, and he had no hesitation about removing the ovary, because the woman was a wreck and would continue to be such, apparently so long as the menstrual epoch continued to recur. Removal of the ovary was the simplest way to stop it. He had nothing to guide him in the matter, as he could not find anything in the literature. He hesitated to continue the division into the uterus, for the reason that there might have been a bicornate uterus and he might have gone into the abdominal cavity. He has wished since that he had done the same operation in this case as in the later one, before any organic changes took place in the first ovary. The patient consulted him for the relief of dysmenorrhea, and that is how he discovered them, although he did not operate solely to cure the dysmenorrhea, but to put the patients in a normal condition. Dr. Longyear knows of one case like Dr. Johnson's where infection occurred. The physician thought that he had curetted away everything, but the woman became septic, and it was then discovered that she had a double uterus, and he had curetted only one side. On making a thorough examination he found that the other side contained septic matter so that she apparently had a double miscarriage.

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A PLEA FOR CONSERVATIVE OPERATIONS ON THE OVARIES,

FROM A NEUROTIC STANDPOINT, WITH REPORT OF CASES.*

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The subject of ovarian neurosis is one of the most difficult the gynecologist has to deal with to-day, because of his inability to fix a standard from which to determine the beginning of surgical treatment. Hence the question is of diagnosis rather than of surgery, and the thing to decide is whether the woman's symptoms arise directly or indirectly from pelvic disease. This decided, the treatment is simplified, but should the pelvic disease not enter into the case further than one of many other factors, then it is not a surgical case, and should be treated accordingly; and it is this very factor which complicates the subject and has given discredit to legitimate surgery and brought to view the shining light of the operator, while the conscientious surgeon prevents damage to the patient and injury to his profession.

It is my purpose to emphasize the importance of a better knowledge on the subject of diagnosing such cases and point out the mistakes likely to occur in doing so, because no class of patients suffer more or longer with less prospect of relief than do these. They are fully convinced that, directly or indirectly, all their grief emanates from the pelvis, and oftentimes this idea is fostered and materially augmented by their friends. The headache, backache and tired feeling, combined with pain in iliac regions, are considered indications of pelvic disease, but when these symptoms are accompanied with disordered menstruation, dysmenorrhea and leucorrhea, then there is no doubt about the diagnosis, especially if some kind friend or thoughtless doctor confirms their opinion.

The real cause frequently originates from abortions, gonorrhea, endometritis and pelvic inflammation, which keep up an irritable condition of the ovaries, and the woman suffers for years, and it is no wonder she is willing to resort to any means that will promise relief. However, the all-important question arises in all such cases as to whether surgery is an advantage or disadvantage, or whether it will do the patient harm or good. Opinions of leading gynecologists differ on this point, although the bulk of authority is against the assumption that pelvic disease is not the cause, but result of neurosis.

The intimate relationship existing between diseased conditions of the reproductive organs of the female and functional disturbance and organic changes in other parts of the body should be better understood; also that fermentation and putrefaction within the intestinal canal will produce autoinfection, and that intoxication will produce ptomains and leucomains, which are the most prolific and common cause of nervous disease. We should know that excretions retained within the body, as well as waste tissue, are absorbed and bring about pathologic changes in the blood, which, in turn, causes malnutrition of nerve centers, and thereby materially interferes with and abridges healthy functions in all the vital organs.

Other causes than pelvic disease may operate to produce this abnormal nervous condition, we must admit, and that the functional disturbances within the pelvis may be the effect and not the cause of the pathologic nerve state, is equally true.

Many surgical procedures, heretofore undertaken with confidence, have been sadly disappointing, and have utterly failed to relieve the condition for which they were advised. The neurasthenia and functional disturbances have remained, and both patient and surgeon have lived to regret the treatment adopted. Many operations which, a few years ago, were very popular with the profession for relief of supposed ovarian nervous troubles, have grown in disfavor, and are now seldom done, which ought to teach us all an important lesson not to take up fads, hobbies and phantom neuropsychosis, but to take a broader and more comprehensive view of the subject and be less radical and more conservative in our treatment of such cases.

A few gynecologists condemn oöphorectomy in neuroses, and deny the existence of genital neurasthenia. This is, in my opinion, an extreme view of the subject, and is as injudicious, in the face of clinical facts, as are the teachings of those who report such large numbers of these patients as cured by the removal of the ovaries.

The experiences of Liebermeister and Baldy coincide so nearly with mine that I quote, in abstract, from remarks made by them on the subject:

"On the one side we often see extremely nervous women, in whom the anatomic and functional conditions of their sexual organs are normal, and, on the other hand, all sorts of diseases of the sexual organs may occur, without the presence of nervous disturbances. Neurotic cases cured by local gynecologic treatment are rare. Many cases are cured in whom the sexual organs remain unchanged. The conclusion, then, must be that neurotic cases are rare that are wholly dependent on diseases or abnormalities of their sexual organs, and yet it is equally true that abnormal irritation of the same functions are conditions especially fitted to cause nervous manifestations."

I began five years ago to examine the right ovary in all cases of appendectomy in women, and was surprised seldom to find an ovary normal, from an anatomic standpoint, but many cystic ones and in some diffused edema. A few conservative operations were done on such ovaries with negative results, and now the ovary is removed or dropped back unmolested, unless prolapsed or congested, then suspension should be done.

Statistical reports of the surgical and non-surgical aspect of ovarian neurosis does not convince me that either extreme should be adhered to, and that an intermediate position is preferred between the two extremes, not laying down any specific rules to be governed by, but judge each case on its own merits.

During the past year several cases have come under my professional care, or have been seen in consultation, on which conservative operations on the ovaries had been performed with negative results, and now they seek a secondary operation for relief. I will report two of such cases which have occurred in my own practice, and two were from other physicians.

CASE 1.—Jan. 6, 1901. Mrs. B., aged 35; good family history. Examination showed she was suffering from metritis and prolapsed and diseased ovary; had severe pain in loin and back of head, which had existed for months without an intermission, producing a general hyperesthesia of the nervous system, insomnia, loss of appetite and emaciation. I put her to bed, using local and constitutional remedies for four weeks without satisfactory results. February 16 I removed the diseased ovary, and she had an uninterrupted convalescence. Her

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nervous troubles seemed relieved for a few weeks, but gradually returned in an aggravated form; in fact, hysteria. Two years after the operation I saw her again, and symptoms were unchanged. I advised her to try medicinal treatment for a few weeks, and if the results were not satisfactory that she should have the uterus and right ovary removed; my advice was not carried out, and I have not seen her since.

CASE 2.—March 20, 1901. Miss S., aged 22. Her family history was negative, and so were most of her subjective symptoms; so far as contributing to the reflex nervous condition, eliminating a diseased condition of the left ovary, which an objective examination fully verified. An operation was advised as the best way out of her trouble; this was refused, although she had suffered almost continually, and often severely, for about three years.

I put her on a medicinal treatment, constitutionally and locally, and put her to bed for four weeks, and quiet for twice as many more, during which time the treatment was continued, but with negative results. June 25, 1901, I removed the left ovary and tube, both being badly diseased; the right ovary and tube and womb seemed normal. She had an uneventful recovery, and for a time seemed relieved; then her nervous condition returned and remained. She has repeatedly requested the right ovary and uterus removed, with hopes of relief; this was refused, because no conditions existed warranting such procedure, hence it is problematic how the case will terminate.

CASES 3 and 4.—Give similar histories of three and four years' standing and operations, by other gynecologists, of single and double oöphorectomies failed to give relief, and the patients consulted me with a view of another operation, and, if I thought best, a complete hysterectomy. After receiving the full histories of the cases and making a thorough examination, and not finding pathologic changes warranting such a procedure, I declined to operate, and these, like the preceding two cases, must look for relief from other sources.

These cases go to show that relief in many cases is not secured from one or even two operations, yet many are benefited, and conservativeness should not be pushed too far, because cystic degeneration in many cases is progressive.

CONCLUSIONS.

1. Operations on the ovaries that preserve the menstrual and reproductive functions should be employed, when possible, in lieu of complete extirpation.

2. Healthy displaced ovaries may be anchored to posterior surface of the broad ligament or by shortening the infundibulo-pelvic ligament.

3. Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on which to do conservative operations on the ovaries.

4. Conservative operations should be avoided on all pus cases, as a general rule.

DISCUSSION.

DR. ROBERT T. MORRIS, New York City, said that the psychoses must be separate from the reflex neuroses. Patients have been operated on who should not have been operated on. Recently a surgeon said to a neurologist that he could clean out his office of patients if he were allowed to step in. To which the neurologist responded that he had no doubt of it. The fact of the matter is that neither was quite familiar with the work of the other. Many patients having a fundamental psychosis give pelvic symptoms. Patients classified as neurasthenics are often patients with a psychosis, with incipient melancholia and with pelvic pains. They must be classified carefully if physicians are not to be subjected to the humiliation of doing unnecessary and harmful surgery.

DR. A. GOLDSPOHN, Chicago, considers that the difficulty is one that is solved by making better diagnoses. The gynecologist, like all specialists, is often accused of finding too much in his sphere and, therefore, every other part of the body should be examined before the pelvis; of course, having the history in detail. Gynecologic diagnosis begins, at least, with the mouth, and sometimes with the eye. The ophthalmoscope ought to be used occasionally to see whether there is an organic lesion of the eye, rather than to regularly use the uterine sound that leads the physician astray frequently in ordinary minor cases. Successful gynecologists must be general medical men first, and be able to distinguish the thoracic symptoms of abdominal or pelvic origin from those that arise from thoracic diseases. Likewise to distinguish the symptoms of kidney lesions, and of diseases of the bile passages and others which arise from traction on peritoneal structures, particularly the suspensory ligaments of the intra-abdominal organs, such as enteroptosis and gastroptosis, from the referred symptoms of pelvic disorders. After that, make a bimanual examination, but to do this thoroughly the physician needs practice quite as much as an average housewife needs to have practice on the piano in order to play that instrument respectably. This fact of cultivating the touch, of having developed eyes in the fingers, is not appreciated enough. It is not the size but the consistence of an ovary that is of importance. It may be twice as large as it should be and yet be healthy; and an ovary half the normal size may be the source of serious trouble and require extirpation more than many an ovarian tumor of the size of a fist. This examination should be impressed on the patient as being a difficult feat, for which she must be prepared. The surgeon should not stake his name and reputation on an examination which he makes on a case as it comes to him; with aggravated sensitiveness, with an abdomen full of feces and gas, and with the bladder distended. It is a mistake to attempt an examination under these conditions. Send the patient home with instructions to come prepared properly, and tell her that an anesthetic is sometimes necessary, although it is a disadvantage in that the physician can not tell when he hurts the patient or when he touches a tender spot. And, having enlisted her good will and intelligence to assist in this examination, try to elicit the facts. With such an examination, together with the subjective history and a complete knowledge of the patient's habits, occupation and surroundings, it is usually possible to discover the psychoses.

DR. W. H. HUMISTON, Cleveland, Ohio, stated that in cases of neuroses there is frequently found a leaky mitral valve, an enlarged heart, a prolapsed kidney or a dilated stomach, and the pelvic organs are found to be normal, although the patient may complain of backache and bearing-down sensations. The gynecologist shines in those cases of acquired insanity in women, with no family history of insanity. Repeated examinations have been made by men who have not the eye in the end of the finger, but when examined by a competent man it is found that the ovary is smaller than normal, hard, corrugated and occasioning continuous suffering. In these cases operative results are brilliant; the patient is restored to full mental faculties and her long suffering is relieved. Even in conjunction with the operation these other associated conditions are often found.

DR. F. F. LAWRENCE, Columbus, Ohio, said that this question seems to hinge on the meaning of the term conservatism. Every man who is doing operations tries to do what is right and what is for the best. The patient with a nervous disease should receive the advantage of exactly the same methods of treatment for relief as one who has no mental nor nervous disorder. The fact that a woman is insane is no reason why she should be denied relief from a gross lesion of any kind. In other words, the determination as to whether operative procedures should be adopted depends on the absence or presence of gross pathologic lesions, no matter what the lesion may be. True conservatism means to do promptly and thoroughly that which will replace a pathologic condition by a physiologic, or which will remove gross pathology.

DR. H. O. MARCY, Boston, emphasized the relation of pelvic disease to insanity. Several years ago he asked the late Dr. Bucke, who had charge of the insane asylum in Ontario, containing over 500 insane female patients, what he knew with reference to pelvic disease in these women. Dr. Bucke

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said that he had never thought of that. Dr. Marcy advised him, on his return, to have all these patients examined carefully and to report results. Over one hundred of these women were operated on for serious pelvic disease, and over 70 per cent. were permanently restored to their normal mental condition.

DR. G. B. MASSEY, Philadelphia, called attention to the cataphoric diffusion through the vagina of mercuric ions, in inflammation in the pelvis. It does not matter whether this inflammation is in the uterus, in the tubes, in the ovaries or in the parametrium, it is still inflammation. There is something between these two alternatives of pelvic disease and psychosis that must be considered at times, and that is abdominal neurosis, not psychosis. Eliminate hysteria, exclude psychosis, and though hysteria is a manifold complex disease, it can seldom be mistaken, but do not treat cases of abdominal neurosis as hysterics. Do not put them in bed; it will make them worse. Correct the abdominal condition. Decide in every case the output of solids in the urine. See that there is no kidney constipation, and many of these cases will recover.

DR. D. H. CRAIG, Boston, said that in examining the ovaries of young women more healthy looking ovaries are found than in women a little older who have had nearly as smooth a life as the young women. On investigating the subject, it occurred to him that the ovary of a woman comparatively recently entered on her menstrual life is relatively sound, whereas the ovary of a woman who has menstruated for some years has a scar for each time an ovum has ripened and the follicle ruptured. At the middle or end of menstrual life, therefore, the ovary is a much scarred, contracted organ. In the average normal ovary there are from ten to eighteen graafian follicles in process of maturation, and many follicles attain a diameter of 2 cm. Dr. Craig has seen many a badly scarred ovary which gave no clinical symptoms but which was so apparently cystic that he put a cautery point or knife into the sacs of fluid and evacuated a great deal of material, dropped it back, and the woman went on comfortably. The question arises whether those scars were not the result of previously ruptured follicles and whether the "cysts" he evacuated were not maturing graafian follicles. After removing such ovaries, he has had them examined microscopically and in some instances his suspicions were confirmed. Many of the so-called cystic ovaries removed to-day, that have given rise to no clinical symptoms of ovarian disease, are not pathologic ovaries at all but are ovaries containing graafian follicles which are rather larger than common but are simply in process of maturation.

DR. COHENOWER does not believe that any one who has not been a general practitioner first should be a specialist in any line of work, especially gynecology, a fact that his consultation work with general practitioners and other gynecologists has verified. Physicians are too prone to limit their knowledge to their own subject, thus excluding much that is valuable in other subjects; hence, their observations should be more general and their work broader, thus producing better results.

MANAGEMENT OF THE ACUTE STAGES OF ABDOMINAL INFLAMMATION.*

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Differential diagnosis is of the first importance, and will first engage the attention of the surgeon. This paper is concerned with the management of acute stages after the diagnosis is made, especially with the question of immediate operation, and only acute conditions will be considered. It may be necessary, clinically, to distinguish the following: Suppurative cholangitis; suppurative cholecystitis associated or not with gallstones; acute suppurative pylephlebitis; various kidney inflammations; peritonitis following the perforation of viscera or of cystic tumors; acute hemorrhagic pancreatitis; ureteral calculus. Among intestinal conditions may be found strangulated hernia; obstruction due to bands; intussusception; volvulus of mesentery or of intestine; acute appendicitis; thrombosis or embolism of mesenteric vessels or those of the spleen. Salpingitis, ovaritis, metritis; postpuerperal, traumatic or due to such infecting agents as the tubercle bacillus or the gonococcus.

Of these conditions certain ones do not call for operation, and are, therefore, to be distinguished. Acute suppurative pylephlebitis, for example, the septic inflammation of the veins of the liver, is an invariably fatal disease. Fortunately, it is usually secondary to an infection along the portal tract, and is, therefore, preventable. A case reported by me was due to acute appendicitis, and another to postperitoneal infection caused by a common pin in the appendix. The primary condition might call for operation, but not the secondary, as the hopeless multitude of liver abscesses and the widespread engorgement of veins by virulent thrombi make radical treatment or even drainage impossible.

Extensive thrombosis of the mesenteric vessels and spontaneous gangrene of the intestine is beyond operative relief, but inasmuch as the area involved may be small enough to make resection feasible, exploratory operation would be indicated were the diagnosis made. It shares with acute pancreatitis certain crucial symptoms. Very sudden agonizing pain, usually above the umbilicus, vomiting, collapse and muscle rigidity. There may also be copious, loose, bloody or coffee-ground stools. The pulse is high and meteorism is very marked. Should the probable diagnosis of acute pancreatitis be made, there is some hope from early operation and thorough drainage. Osler mentions two cases which recovered after partial or total sequestration of the pancreas within an abscess cavity. The mistaken diagnosis of acute intestinal obstruction is very apt to be made in these cases.

Should acute necrosis of the spleen occur from occlusion of its blood supply operative extirpation would be probably useless, but theoretically it would be indicated.

There is a simulation of abdominal inflammation which deserves to be carefully considered, namely, pain referred to the epigastrium or appendix region in the early stages of pneumonia. In most of these rather puzzling cases, however, the real origin of the disease is in the appendix, and the chest symptoms are due to a secondary diaphragmatic pleurisy or to a septic pneumonia. When the onset has been distinctly abdominal, the later development of lung symptoms must not be allowed to befog the diagnosis of appendicitis. We come, then, to a group of conditions in which the treatment, at least, of all the graver types is operative, but in which the indications are to avoid operation in the acute stage, if possible, relieving by simple drainage if compelled to intervene. Operate radically after the primary stages of infection are past. To this type belongs salpingitis in all its forms, gonorrheal, traumatic, tubercular, post-puerperal; also cholecystitis, except the fulminating or gangrenous forms. The gall bladder is, however, like the appendix, much more liable to the treacherous, rapidly fatal conditions of profound infection

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and will not bear at all a management which follows set rules and does not allow of variations.

There remains, then, by far the largest group, namely, that in which operation is indicated at the earliest possible moment of an acute onset. Appendicitis is here included, with some modifications in cases first seen in later stages, also intestinal obstruction, perforation of all viscera, and strangulated hernia. After perforation of any of the viscera, immediate and radical operation is indicated as soon as the diagnosis can be made, or, in severe cases, with very suspicious symptoms, even before the diagnosis is certain. The repair is to be made with as little handling of bowel as possible, the peritoneal cavity being carefully cleaned by sponging if the affected area is small, or by copious irrigation if there are no limiting adhesions and contamination is extensive. Drainage by tube and gauze follows, of the region affected and of dependent points.

Strangulated hernia, or inflamed irreducible hernia, both call for immediate operation, day or night. Patients with such disorders do not bear transportation well, especially if advanced in years. It is often wiser to operate in the patient's home than to invite disaster by transporting him to a hospital. Space forbids here any consideration of operative technic. The truest conservatism almost always calls for the total removal of the appendix as contrasted with a drainage operation in acute attacks. Gonorrheal tubes, if operated on at all, should both be removed into the cornu of the uterus.

MEDICINAL TREATMENT.

In cases where it has been decided not to operate, vomiting is best controlled by withholding all food, and, if necessary, by lavage of the stomach. Feeding by the rectum sustains the strength and rests the disordered digestive tract. Tympany may be relieved by hypodermic injection of salicylate of eserin, 1/100 gr., among other measures. Normal salt solution by the rectum or under the skin flushes the kidneys, relieves thirst, sustains the pulse and assists in the elimination of toxins.

The ice bag is probably the most useful local agent we have. Ichthyol may be applied to the skin under it. Flannel should always intervene to take away the sense of chill. My custom is not to use ice continuously, but two hours out of every three. Local sloughs have been reported as caused by its continuous use.

Opium in acute conditions is dangerous, because it masks the symptoms and has thus caused many deaths.

Acute cholecystitis, whether due to gallstone disease or to infection by specific organisms, such as the typhoid bacillus, may be cautiously watched through acute stages with everything ready for immediate interference if called for. Gangrene and perforation are not common, but they call for immediate operation at any time when they may be discovered.

APPENDICITIS.

Next to inflammatory disease of the pelvic organs in women, quite the most frequent cause of acute abdominal inflammation is appendicitis. As is well known, the pain and tenderness may be referred to the epigastrium or liver region, to the pelvis, or even to the left side of the lower abdomen. Should a patient have sudden severe pain in these regions, with chilliness, vomiting, a little fever and an anxious expression of the face, with muscular rigidity over the right abdomen in the lower quadrant, appendicitis is probably present. No matter where the pain may be referred, the muscular rigidity is always over the diseased organ.

When the attack of acute appendicitis is serious and decided, there is general agreement that the appendix should be at once removed. No time should be lost in obtaining a blood count, which can only corroborate what the clinical picture teaches. If taken, however, it will probably show a leucocytosis above 15,000, with a tendency to increase; but a high white cell count alone is not a good guide for or against operation, though it furnishes valuable corroborative evidence. Its absence must not be too highly regarded if other symptoms of gravity are present, especially an unsatisfactory pulse and a facies which shows anxiety, associated with sallowness or slight jaundice and duskiness. In profound toxemia the facial expression may be dull and listless.

Micro-organisms.—The organisms most frequently met in abdominal inflammations are the gonococcus, the colon bacillus, the streptococcus, the tubercle bacillus and staphylococci. The typhoid bacillus is occasionally found in pure culture in the gall bladder, as in one of my cases.

However difficult it may be to demonstrate it in the laboratory, there are undoubtedly stages of growth in which organisms vary greatly in their power to produce toxemias. Widespread as the colon bacillus is, it is only in some stages that it forms a highly dangerous infective agent. For example, in gunshot wounds of the healthy intestine, these bacilli escape into the peritoneal cavity without doing harm, if reasonably prompt suture of the openings and the toilet of the peritoneum is carried out. A similar amount of implantation of the same bacillus as it appears when migrating through the walls of a gangrenous volvulus gives rise to a rapid form of infection after an equivalent number of hours' residence in the peritoneum, which no amount of irrigation or cleansing is able to offset.

The comparison intended is the same as that which may be made between the organism of diphtheria demonstrable in the discharges of ozena, as compared with the same organism appearing in the infectious stages of true diphtheria. The same difference holds good in regard to stages of virulence in streptococci and the pus-forming organisms.

The deduction is this, that under the conditions which obtain when the bowel wall is acutely inflamed, especially where the blood supply is suddenly cut off, virulent states of previously benign organisms rapidly develop.

Most important in the case of appendicitis is the concealment under which this process at times proceeds. A history such as this is well known in the experience of every operating surgeon. A patient has appeared perfectly well till within thirty-six or forty-eight hours of the time he is brought for operation. For the first twenty-four hours of that time symptoms have been so mild as not to confine him to bed, and to his friends, or even to his physician, there has seemed little cause for anxiety. The temperature was not above 99, and there was little pain, though for a few hours in the beginning it had been severe. Only the pulse was suspiciously high. Twelve hours later the patient's condition had obviously changed for the worse; the pulse was 120 to 130 and feeble, the tongue dry, the face anxious and slightly jaundiced, or with a sickly pallor. In such a case the temperature may be from 99 to 101. Tenderness of the abdomen may be slight or severe, according to whether the entire area involved is gangrenous, or whether surrounding peritoneal areas are only inflamed. The skin becomes leaky, the pulse thready, rapid and running, the voice weak. The subcutaneous capillaries

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are irregularly distended; there are mottled bluish patches about the abdomen and thighs; the mind, at first clear, becomes dull. The patient, who seemed so well after the first twenty-four hours, is at the end of forty-eight hours on the verge of the grave.

What has happened here is that profound toxemia has developed quietly, while the absence of marked pain or extreme degrees of temperathre, vomiting or tympany has given the attendants a false sense of security. There may or may not have been a rupture of the appendix. There has been here the development of a highly virulent condition of the ordinary bacilli of the intestine. The products which accompany their growth are intensely poisonous. Absorption has taken place through portal vein radicles and has reached the liver, or postperitoneal lymphatic channels have poured it into the great lymph streams. Whatever the route, the toxic dose received by the patient was sudden and overwhelming. In spite of operative removal of the appendix and drainage at this time, early in days but late in infection, there is little hope for the patient. It is the treacherous character of infection of the appendix, its power of remaining latent or concealed, and bursting forth into an overwhelming toxemia, that furnishes the keynote for the management of the disease.

If seen early, operate early and radically, in all except the simplest cases, without waiting for dangerous symptoms, when it may be too late. The management of late stages, seen only when late, presents special problems.

INFLAMMATORY CONDITIONS IN THE PELVIS.

The second most formidable infecting organism met with in acute conditions is the streptococcus. Especially as found in post-puerperal inflammations, it gives rise to many fatalities. The cardinal principles of management of such infections may be briefly summarized as follows: Avoid, if possible, opening the general peritoneal cavity. Thoroughly cleanse the vaginal and uterine field by gentle mechanical removal of débris without abrading fresh surfaces. Use tincture of iodin and loosely pack uterus and vagina with iodoform gauze.

If the conditions be not promptly arrested, open the vaginal cul-de-sac and isolate the uterine field by iodoform gauze, as advocated by Pryor. Should pus form in the pelvis, every effort should be made to drain it from the vaginal side to tide over the acute stages. Operate radically weeks or months later, if necessary, when much of the danger of peritoneal operative infection will have passed away. Acute symptoms, due to tuberculosis of the tubes and ovaries or of the urinary tract, are, if severe, apt to be due to mixed infection. It is wiser not to operate radically in the height of an inflammatory attack, but to tide over the acute period by ice externally and general measures, including good care and nursing. Pus is to be immediately drained away, for example, from the kidney, reserving nephrectomy for a later period.

Gonorrhea is the most common, and to life least dangerous, of the causes of acute abdominal inflammation, especially in women. Its results in producing permanent ill health are, however, appalling, and many deaths follow more or less indirectly. Immediately after a menstrual period, or immediately after childbirth, a fresh infection appears more liable than at other times to spread to the peritoneum and to give rise to serious lesions.

In the acute stage prompt attention will greatly modify the destructive process. Rest in bed, liquid diet, saline laxatives, external cleanliness, gentle irrigation with lysol or potass. permanganate, 5 per cent. protargol solution to the urethra, will promptly ameliorate the external symptoms, and while these measures do not cure the tubal conditions, they lessen the tendency to reinfection and extension. Prompt amelioration of pain, temperature and tenderness should follow. According to Pryor, opening the vaginal cul-de-sac and packing the pelvic cavity with properly prepared iodoform gauze will prevent serious lesions of the tubes in nearly all cases if done promptly. Radical extirpating operations should never be done in the acute stages, especially of first attacks. Too long delay, however, may be worse, and if pus forms in quantity it must be evacuated by the nearest route; otherwise it may burrow or perforate into bowel or bladder. Gonorrheal cases are not favorable for partial operations, which aim to preserve organs. No greater contrast in the management of acute conditions exists than between that of acute appendicitis and acute gonorrheal salpingitis, or salpingitis due to cold or dampness while menstruating. In appendicitis, owing to the treacherous nature of the disease, operation is usually safer than waiting, and, except in the simpler cases, it should be done as early and as completely as possible, being followed by free drainage. The appendix can be removed in all but the most exceptional cases, and it should be done.

In salpingitis all palliative measures should be employed during the acute stage, and operation never undertaken then except for good reason. If necessary to drain a large pus collection, do it preferably by the vagina. In gonorrhea a few cures will be accomplished in this way, though the mortality of the subsequent major operations will be greatly lessened. It is possible thus to handle a series of pus cases with a mortality of 4 or 5 per cent. As bad pus cases formerly constituted the chief element in mortality in any series of unselected cases, a great gain has been made by the adoption of this plan of management, so that it is now possible to keep a general operating mortality well under 6 per cent. and to have a long series of cases without a death. The mortality in the simpler chronic gonorrheal salpingitis cases is almost nothing.

REMARKS.

No greater mistake can be made, however, than to make these rules apply rigidly to all cases. The surgeon must ever be on the alert for signs which call for immediate operative interference.

Of danger signals, the most important is the pulse. A rate high in proportion to the severity of other symptoms is very suspicious and should lead to the utmost vigilance. An ascending rate with a diminishing quality means danger, and this no amelioration of other symptoms should outweigh. The temperature is an unsafe guide in abdominal inflammation, as the gravest lesions may be accompanied by little rise and a fall may be deceptive. A simultaneous and continued rise of both pulse and temperature is always unfavorable. Leucocytosis above 15,000 with a tendency to rise usually points to operation. A decided fall in a patient evidently very ill is not a good sign. Other unfavorable signs are persistent vomiting, increasing tympany, sweating, thoracic respiration, increasing muscular rigidity, failure of peristalsis, local edema. Pain generally improves with the patient's condition. A sudden cessation in an otherwise ill patient may point to gangrene.

1831 Chestnut Street.

DISCUSSION.

DR. JOHN H. FISHER, Philadelphia, indorsed all that Dr. Shoemaker said on the management of acute inflammatory conditions in the abdominal and pelvic cavities, but emphasized that the tolerance of the peritoneum differs in various portions of the abdomen. It is more tolerant in the pelvis than in the upper portion. In acute inflammations in the pelvis acute symptoms should subside before operation. No risk should be run in appendicitis. The patient's life is not jeopardized by an early operation. In a gonorrheal case Dr. Fisher recently removed a large pus tube from one side. He thought of removing the other tube, but a physician present said that it was healthy and suggested that it be left. Dr. Fisher left it and the patient has since returned to have it removed. Gonorrhea in a female, although it may appear to involve only the appendage of one side at first, always becomes bilateral, and during an operation, when one side appears to be healthy, it is best to remove the tube, leaving, if possible, an uninvolved ovary.

DR. F. B. DOHERTY, Keokuk, Iowa, said that for a number of years it was his practice in gonorrheal patients to remove the tubes and to consider the patients cured, but on investigation he found that they have constant leucorrhea. For the last four or five years, whether the trouble is unilateral or bilateral, he removes the uterus also, and the results have been very satisfactory. He can not recall a single death from a gonorrheal inflammation during the acute stage, except those who were operated on by other men during the acute stage. The acute symptoms should subside before operation. If there is a mixed infection, drain through the vagina until the primary attack has subsided, and then do a radical operation. In mixed infection there is trouble outside of the tubes, involving, perhaps, the broad ligament or some of the other tissues. We are not yet able to differentiate between a return to the normal and gangrene; nor can we diagnose, in some cases, the presence of pus in or about the appendix. Within the last three months in four patients with normal temperature he found pus.

DR. CHARLES L. BONIFIELD, Cincinnati, Ohio, declared it bad practice to remove both tubes and the uterus in every case because one tube is infected with the gonococcus. In the later cases he believes that one tube should be removed and the uterus curetted; part of the other tube and ovary may be removed and the woman will still be able to give birth to healthy children. In some cases, one appendage is removed and the woman is apparently cured of the gonorrheal discharge. Afterward she has another gonorrheal discharge and infection of the other tube. There is no proof that this came from the original infection, because one of two things is taking place—either the woman is a prostitute and has been exposed to gonorrhea since the operation, or she is married and her husband has gonorrhea. Dr. Bonifield has seen a number of such cases where a woman was infected several weeks after coming from the hospital. Many of these instances of persistent discharge from the uterus are due to the fact that the removal of the tubes was imperfect. In the early days the tube was tied off anywhere near the uterus. Now, the careful surgeon will not only cut off the tubes close to the uterus, but he will dissect out the horns and thus prevent secondary infection. The inflammation inside the uterus can be cured by repeated curettage and prolonged local application. Gynecologists make a mistake when they curette and promise the woman she will be well. She should be instructed to come back to the office for inspection a few weeks after the curettage, and often it is necessary to continue the local applications.

DR. SHOEMAKER said that in his service in the Presbyterian Hospital, Philadelphia, he had 83 consecutive operations with only one death. These included several cases of bad pelvic abscess, two from gonorrhea with gangrene of the intestine, just on the point of perforation; but both cases got well, although they would have died if they had not been operated on. Sometimes he removes the uterus and sometimes he does not, but the cornua should always be removed. Leaving one tube in the presence of the gonococcus is bad policy, unless there is a strong reason for making the effort, and we explain to the patient that she may require a secondary operation. He has tried the conservative method a number of times on gonorrheal cases and has been disappointed. Almost invariably he had to do a secondary operation later. An uninvolved ovary will not very often become infected.

ENURESIS IN CHILDHOOD.*

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PHILADELPHIA.

Experience has taught that incontinence of urine, while not uncommon in adults, in women especially, is constantly noted in institutions for the treatment of children. During the past five years at the children's dispensary, University Hospital, we have found 85 cases of enuresis among 1,657 new patients treated, one out of almost every twenty children manifesting this condition, about 5 per cent. These figures tend to corroborate the statement made by Townsend[1] that, when the families of children applying for treatment at the Children's Hospital, Boston, were questioned, 21.5 per cent. of all children were found to have or to have had enuresis. Out of 1,500 children, however, he found but 25 with incontinence of urine, about 1.6 per cent, while Adams[2] reported 55 cases out of 19,361 children, about .25 per cent. It is probable that more of the children whom we saw suffered from enuresis, although the limited history taken failed to elicit this fact. Adding to these five cases recently observed in private practice, we have the honor to present 90 cases of enuresis in children, detailing our plan of treatment.

The incontinence occurred at night only in 53 cases; was both diurnal and nocturnal in 35 cases; and was diurnal only in two cases. Forty-seven patients were boys and 43 were girls. In 59 children the enuresis persisted from infancy, called by Townsend "primary" cases; in 11 cases it was first noted at 3 years; in four at 4, 5 and 6 years; in three at 9 years; in two at 7 years, and at 8 and 12 years, respectively, in one child, making 30 "secondary" cases. In one case the time of onset is unknown.

Twelve of the 90 children treated were of Jewish ancestry, six boys and six girls. All these boys were circumcised in infancy. Four other boys had also been circumcised, in only one of whom did the operation result in permanent recovery. Five children, four boys and one girl, made up an entire German family, two of the boys being twins. One boy was a Syrian, one girl Italian, and two boys were French; the others were all American born. The mother and six sisters of one boy were epileptics, and he also had epilepsy. It is interesting to note here that Trousseau[3] believed enu-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. S. W. Kelley, H. M. McClanahan and John C. Cook.

1. Archives of Pediatrics, 1887, vol. iv, p. 744.
2. THE JOURNAL A. M. A., 1885, vol. iv, p. 6.
3. Journal de Médecine et de Chirurgie Pratiques, 1860, 2 s., vol. xxxi, p. 108.

resis to be more frequent among epileptics. The history of two boys showed tuberculosis, of two alcoholism, and of two hereditary syphilis, while one boy and three girls gave a decidedly neurotic family history.

Of the complications noted, chronic gastrointestinal indigestion was by far the most common, occurring in 38 cases, sixteen boys and twenty-two girls. Nasopharyngeal catarrh was noted in 17 cases, ten boys and seven girls; hypertrophied tonsils or tonsilitis in 8 cases, five boys and three girls; adenoids in 8 cases, four girls and four boys; enlarged cervical glands in four boys; otitis in one boy and three girls; eczema in two boys and one girl; hereditary syphilis in two boys; chorea in one boy and one girl; vulvovaginitis in two girls; oxyuris in one boy and one girl; ascarides in one boy; asthma in one girl, and undescended right testicle in one boy. Masturbation is known to have been present in one boy only. Besides, two of the girls treated had recently been discharged from institutions in which enuresis is notably frequent.[4] Morris[5] says it occurs in one out of every twenty boys in reformatories, and is more common among colored than white children. This we cannot confirm, as only two of our cases occurred in colored children. But we should state that the ratio of white to colored children at the children's dispensary, University Hospital, is about 40 to 1. One girl had a rectal polyp, but its removal did not cure the incontinence, as occurred in Townsend's case.[6] Of the eight children with adenoids, six had undergone operations for their removal without more than temporary improvement of the enuresis.

The question of the etiology of enuresis has received much discussion. Yet, in the majority of cases, the cause remains unknown. In many cases the condition was first noticed after some debilitating illness, such as the infectious diseases. In 27 of our 30 "secondary" cases, the cause of the enuresis was known. In these cases, as in the majority of cases in which the cause remains unknown, it seems probable that the tonicity of the vesical sphincter muscles is lowered; in some cases the entire musculature of the bladder walls decidedly needs toning. That, out of 90 cases, we only had 27 in which the cause was known, is directly contrary to the figures quoted by Townsend, who found some cause which could reasonably be held responsible in 69 per cent. of cases. Two of our cases resulted from being accidentally run over; 3 were due to cystitis, with osteoma and congenital malformation of the sacrum in one; one to diabetes mellitus; one to an old hemiplegia; and one to excessive acidity of the urine. Of the 19 cases in which enuresis followed some infectious disease, 8 appeared after measles, 5 after pertussis, 3 after scarlet fever, 2 after typhoid fever, and one after diphtheria.

In every case we attempted first to correct all errors in diet. Tea and coffee, fresh bread and cake and fried things were forbidden absolutely; nothing was allowed between meals except milk; no liquids were permitted after supper, and the fluid taken at that meal was limited to one cup or glassful. Cold sponge baths of two minutes' duration, followed by rubbing the entire body with a Turkish towel, were ordered daily on rising; and associated conditions, such as gastrointestinal or nasopharyngeal catarrh, otitis, tonsilitis, eczema, worms, etc., were given special attention. In a few cases a folded towel was fastened to the child's back, preventing sleeping on the back; in some cases, too, the foot of the bed was elevated, according to Stumpf's method.[7] If analysis of the urine showed hyperacidity, potassium citrate was given. In all the boys the foreskin was stripped back regularly and adhesions freed, when this was possible; when there was phimosis circumcision was advised. In every case in which the presence of vesical calculus was suspected, skiagraphs were made or sounds introduced. Yet no calculi were discovered among our 90 cases, in spite of their recorded frequency. The one case in which vesical calculus seemed the most probable cause of enuresis failed to return for further treatment.

Tincture of belladonna was first prescribed, in ascending drop doses, beginning with three drops three times daily, increasing one drop a day. With this a bitter alkaline tonic was given before meals.

When as many as ten or fifteen drops of tincture of belladonna thrice daily failed to control the enuresis, aromatic tincture of rhus was tried, increasing gradually up to 30 minims a day. If this also failed, as it usually did, a solution containing 1/240 gr. of atropin and 1/480 gr. of strychnin to the drop was given. The initial dose was one drop a day, increased one drop daily until symptoms of the physiologic action of atropin or strychnin appeared, or the enuresis ceased. In one or two of these cases potassium bromid was also given. In a few cases the medicine was given after supper only; in some after dinner and after supper; but in the majority of cases, three times a day, with the largest dose always in the evening. In 13 cases electricity was tried, with or after aromatic tincture of rhus, with success in but one case.

On this treatment 67 out of 90 cases recovered, almost 75 per cent., in 53 of whom recovery is known to have been permanent. From the 14 other patients who recovered, nothing has been heard for varying intervals of time, though they had recovered when we last saw them. Nine patients were recorded as improved and seven as unimproved, three of whom had cystitis. In 6 cases the result of treatment remains unknown; one death occurred, from diabetes mellitus, almost sixteen months after symptoms were first noticed.

Of the 67 cases cured, 37 followed the administration of tincture of belladonna, in doses ranging from six to fifty-seven drops daily, and 22 the administration of the atropin-strychnin mixture, in doses varying from one drop (atropin gr. 1/240 and strychnin gr. 1/480) to thirty-three drops (atropin gr. 1/7 and strychnin gr. 1/14). In the last case no physiologic symptoms appeared, in spite of the massive dose. In two patients recovery resulted from diet and hygiene alone; in one it followed 15 grains of potassium citrate daily, besides; in another, 27 minims of aromatic tincture of rhus daily; in another, circumcision; in another, tincture of belladonna with potassium bromid; in still another, the atropin-strychnin solution, together with potassium bromid. In the children with chorea, one boy and one girl, no strychnin was given, but the dose of potassium bromid was greatly increased.

Of the 9 patients who only showed improvement, 5 were taking tincture of belladonna, 2 the atropin-strychnin mixture, one aromatic tincture of rhus, together with the application of electricity, and another the

4. A. Hewson: Amer. Jour. Med. Sci., 1858, n. s., vol. xxxvi, p. 379.
5. Med. and Surg. Reporter, 1881, vol. xliv, p. 652.
6. Boston Med. and Surg. Jour., 1892, vol. cxxvii, p. 592.
7. Münchener med. Woch., 1896, vol. vi, p. 265.

atropin-strychnin mixture with potassium bromid. Of the 7 cases marked unimproved, 3 had cystitis, 2 were on tincture of belladonna only, 1 was taking the atropin-strychnin mixture, and 1 the tincture of belladonna and aromatic tincture of rhus.

The duration of treatment in the 67 cases which recovered was as follows:

	Cases.		Cases.
3 weeks in	16	16 weeks in	3
6 weeks in	11	1 week or less	2
2 weeks in	10	7 weeks in	2
8 weeks in	6	12 weeks in	2
4 weeks in	4	11 weeks in	1
5 weeks in	4	20 weeks in	1
9 weeks in	3	Unknown	3

Omitting the 2 cases in which the duration of treatment was unknown, this gives an average of five and one-half weeks of treatment for each child.

There was recurrence in 17 of the 67 cases which recovered, generally with the first cool nights in the fall; sometimes, too, whenever too great a quantity of fluid was ingested. In these cases some drops of the tincture of belladonna, aromatic tincture of rhus, or the atropin-strychnin mixture cured the condition in a few days.

Of the two boys with diurnal enuresis, one was cured on the atropin-strychnin mixture; in the other the result remains unknown. Of the 35 with both diurnal and nocturnal enuresis, 22 were cured, 2 improved and 5 unimproved, including 3 with cystitis, while the result was unknown in 2 and in 1 death occurred, from diabetes mellitus. Of the 53 with nocturnal enuresis, 43 were cured, 7 improved, 1 unimproved, and in 2 the result was unknown.

A review of the prolific literature on enuresis, now over three times as long as that reviewed by Adams[8] in 1884, brought to light many ancient and modern methods of treatment. The majority of writers rely on belladonna or atropin, with or without strychnin, yet the lack of any uniform, routine mode of treatment for those cases in which the cause is unknown is a possible reason for failure. Thiemich,[9] Reinach,[10] Hippius,[11] and others consider the condition hysterical and urge suggestion and hypnotism in the treatment; Rousseau St. Philippe,[12] Gundobin,[13] Perles,[14] Freyberger,[15] and others rely on aromatic tincture of rhus, while Thomson,[16] Leonardi,[17] Marchionneschi,[18] Becchietti,[19] Ademollo,[20] and others employ chloral. Electricity, quinin, other drugs and various operations have all been in vogue.

The idea that the child will outgrow the condition appears to us erroneous, especially as our oldest patient reached the age of 19 years before being cured. Circumcision has been advised in all cases with preputial adhesions of phimosis, but is very rarely permanently curative. More recently epidural injections[21] have been employed with success. We tried to secure a patient for this operation among those in whom our treatment failed, but were unsuccessful. The many other modes of treatment, subcutaneous injections of normal salt solution, cocain, air, blisters to the perineum, rectal massage, etc., seem to us useless.

We conclude, then, from our results—almost 75 per cent. of recoveries—that our routine method of treatment is of decided value in enuresis. We would add, as a further step, based on the results achieved by others, epidural injections, when negative results have been obtained on the plan of treatment outlined above.

DISCUSSION.

Dr. Edwin E. Graham, Philadelphia, emphasized the fact that treatment in enuresis should be kept up for a long time. These cases often drift from one clinic to another, and remain uncured because the treatment is not carried out systematically. The belladonna and strychnia are usually given in too small doses and not continued long enough; they should be given in increasing doses, and continued for weeks and even months and should not be discontinued as soon as an improvement or apparent cure takes place. After the cure has lasted for two or three weeks the dose can be gradually reduced.

Dr. Isaac A. Abt, Chicago, had an experience during the past winter in the treatment of enuresis which has been instructive to him. A little girl of 7 years had been under his care for a long time, suffering from nocturnal enuresis. The child was in excellent health, the urinary examination was negative and for the enuresis she was given 1/200 grain of atropin twice daily. She took this from the first of January until the middle of April. The enuresis improved very much, and the use of the medicine was continued. After the child had taken the drug for a long time, she complained one day at school of dizziness, and the mother noticed that she blushed frequently. About 2 o'clock one morning Dr. Abt was called to see her. The parents told him that for several hours she had been actively delirious. She was dreadfully excited, very voluble, and labored under the hallucination that the neighbor's house was on fire, and no amount of persuasion could convince her that her own home was not already aflame. Her pulse was between 80 and 90, and of good quality, the respirations were from 24 to 26 a minute, temperature normal; the pupils were dilated and reacted slowly to light, and the tongue and mouth were dry. After leaving the case that night it occurred to him that she had been taking atropin for her enuresis and that this might bear a causal relation to her delirium. The delirious condition continued more or less for four days, at the end of which time no further disturbances occurred. The case was undoubtedly a toxic delirium caused by the continuous use of atropin. He believes that this is a valuable point to be borne in mind in connection with atropin treatment of enuresis.

Dr. Maurice Ostheimer said that while symptoms of poisoning from the use of atropin in these cases are not at all uncommon, they never do much harm. In one instance a nurse accidentally gave a child a dram of a mixture containing 1/120 of a grain of atropin to the drop. The child recovered entirely from the effects of the overdose within twenty-four hours.

8. Amer. Jour. of Obstet., 1884, vol. xvii, p. 657.
9. Berliner klin. Woch., 1901, 31; Jahrbuch für Kinderheilkunde, 1903, vol. lviii, p. 850.
10. Jahrbuch für Kinderheilkunde, 1903, vol. lviii, p. 795.
11. Medicinskoie Obozrenie, 1893, vol. xxxix, p. 370.
12. Journal de Médecine de Bordeaux, 1892, vol. xxii, p. 389; Gazette des Hôpitaux de Toulouse, 1893, vol. vii, p. 4.
13. Medicinskoie Obozrenie, 1888, vol. xxix, p. 709.
14. Thèse de Paris, 1900.
15. Treatment, 1898, vol. ii, p. 129.
16. W. Thomson: Lancet, 1870, vol. ii, 703; 1872, vol. ii, 766; 1873, vol. ii, 414.
17. L'Ippocratica, 1872, vol. xxiii, 3 s., p. 54.
18. L'Indipendente, 1873, vol. xxix, p. 391.
19. L'Imparziale, 1874, vol. xiv, p. 4.
20. L'Imparziale, 1875, vol. xv, p. 171.
21. F. Cathelin: "Les Injections Epiduraires," Baillière, Paris, 1903; F. C. Valentine and T. M. Townsend: Medical Record, Sept. 26, 1903.

Antagonism of Alcohol and Strychnia.—Dr. J. M. French, in an article in *Merck's Archives*, says that few physicians recognize that there is an antagonism between alcohol and strychnin. He says that the keynote of strychnin is stimulation and that of alcohol paralysis. Strychnin increases the acuteness of touch, perception and also muscular resistance, while alcohol lessens the ability to distinguish heat and cold and makes the touch defective. Strychnin renders the sense of smell abnormally acute, while alcohol renders it defective. Dr. French concludes that, as the two substances are directly opposed in their therapeutic effects, their conjoint use is an absurdity and that whatever benefits may result from administration of strychnia are not observed when it is used as an adjuvant of alcohol.

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HEMATURIA AS THE EARLIEST OR ONLY SYMPTOM OF INFANTILE SCURVY.*

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Very soon after the existence of infantile scurvy as a clinical entity was established, it was recognized that hematuria was a not uncommon symptom. All writers on the subject refer to hematuria as one of the symptoms, but very few lay any stress on it or emphasize its importance. Holt[1] says that it is seen in about 5 per cent. of the cases while Rotch[2] says that it has been noticed in a certain number and that it is well to examine the urine when this disease is suspected.

While all writers mention hematuria as one of the symptoms of scurvy, most of them give the impression that it is rather an unusual symptom and certainly not an important one. Very few call attention to the fact that it may be the earliest symptom, and hence, for a time, the only symptom. Holt[1] says that in rare cases hematuria has been the first symptom noticed; Williams,[3] that hematuria may be the solitary sign of scurvy; and Barlow,[4] that it may occur without limb symptoms and respond immediately to the addition of living food to the dietary. Carpenter[5] has also referred to it a number of times in discussions.

It seems strange that the importance of hematuria as an early sign of scurvy has been so little appreciated, as some of the earliest writers called attention to it. Gee,[6] in 1889, in a paper entitled "Bloody Urine the Only Sign of Infantile Scurvy," reported two cases. Thomson,[7] in 1892, reported a case of hematuria of a month's duration in a child of seven months. No other symptoms beside lassitude were noted, and recovery was rapid under antiscorbutic treatment. Barlow,[4] in 1894, reported two cases of hematuria in infants in which there were no bone lesions, but excessive irritability, resentment to the slightest touch of the lower limbs and a certain amount of anemia. Both recovered rapidly under antiscorbutic treatment. A few similar cases have been reported since then, but in none has the importance of hematuria as an early or as the sole sign of scurvy been fully emphasized.

My experience leads me to believe that hematuria is not only a more common symptom of infantile scurvy than is generally supposed, but that it is comparatively often one of the earliest symptoms, if not the earliest, of the disease, and that it may be for a considerable time the only symptom. The following cases are examples:

CASE 1.—J. W. was an eight months' baby. He was never nursed, but was fed from the first on a pasteurized, modified milk, prepared at the Walker-Gordon laboratory. He did very well until he was about 8 months old, when he ceased to gain, and began to lose in color. September 27, when 9 months old, he began to pass bloody urine. It was red, slightly acid, of a specific gravity of 1008, and contained ⅛ per cent. of albumin. The sediment contained normal blood and a few small, round cells. There were no other symptoms except that he was rather more fussy than before. Nothing was found on physical examination to account for the condition of the urine. The hematuria persisted in spite of alkalies and uretropin. On October 17, nearly three weeks after the onset of the bloody urine, the nurse reported that his back seemed to hurt him and that he disliked to be bathed or handled. Physical examination failed to reveal any other signs of scurvy, but, as the combination of hematuria and tenderness suggested this disease, he was given orange juice. The tenderness disappeared in a few days and the urine was entirely free from blood by the first of November.

CASE 2.—Baby S. was the second child of healthy parents. She was healthy at birth and weighed about 10 pounds. She was fed on the breast for a few weeks, then on cereal milk for three or four months, and after that on Eskay's food. This was prepared with scalded milk. She was perfectly well up to eight months, except for occasional regurgitation. She had not vomited for three months. Her movements had always been normal in character, although she had recently been slightly constipated.

When she was 8 months old it was noticed that the urine stained the diapers. A month later a small specimen was taken to her physician, who found a little blood in it. The urine was not examined again until four days before I saw her, when she was 11 months old. At that time it was reddish, and undoubtedly contained blood, but as it was decomposed no microscopic examination was made. The parents said that the redness of the urine varied from time to time. She passed water frequently, but micturition was not painful. Her parents thought that the quantity of urine was not diminished and said that she drank a great deal of water. She perspired considerably, but had no fever. Tuberculosis of the bladder had been suspected and the urine examined for tubercle bacilli. None was found. Chronic arsenical poisoning had also been suspected. No examination of the urine for arsenic had been made, however. She had been pale for four or five weeks, and had not gained in weight for a number of months. During the last week her legs had been tender, and she had cried out when handled. She had been afraid of being touched for two days.

Physical Examination.—She was fairly developed and nourished, but markedly pale. There were no subcutaneous hemorrhages. She was very much afraid of being touched, and screamed when approached. The gums were not at all inflamed about the teeth. There was some tendency to hold the legs flexed at the hips and knees. Passive motions caused some pain, but were not limited. No enlargement of the bones was made out, and no local tenderness.

Treatment.—She was put on fresh milk, with lime water, and given two tablespoonfuls of orange juice daily. She began to improve almost immediately and was well in a few days. There was no recurrence of the hematuria.

CASE 3.—K. P., 15 months old, was the first child of healthy parents. He had never nursed and had never been able to take milk. Although large and fat, he had always been a little backward in development. For some months he had been fed on condensed milk and barley, with occasionally a little bread and cracker. About six weeks before I saw him micturition was said to have been painful for a day. The urine was examined a week later and a trace of albumin, a small amount of normal blood, and a very few fine granular casts found. He was given citrate of potassium, but there was no improvement in the urine, which continued to contain a trace of albumin and normal blood. Casts were never found again, and no bladder elements were ever seen. During the last two days the amount of blood had increased so much that the diapers were stained red. The urine was passed in sufficient quantity. Benzoate of soda and cystogen had been tried without relief. Acute nephritis or tumor of the bladder was suspected. Further questioning elicited the information that the legs had been a little tender since the beginning and that he had given up trying to stand. His appetite had been good.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. S. W. Kelley, H. M. McClanahan and John C. Cook.

1. Holt: Diseases of Infancy and Childhood, 1902, p. 342.
2. Rotch: Pediatrics, 1901, p. 844.
3. Williams: Diseases of Children, 1900, p. 242.
4. Barlow: British Medical Journal, 1894, vol. ii, p. 1029; Keating's Cyclopedia of the Diseases of Children, 1890, vol. ii, p. 365, and Supplement, p. 330.
5. Carpenter: Reports of the Society for the Study of Diseases in Children, I (1900-1), II (1902-3).
6. Gee: Bart. Hosp. Reports, 1889, vol. xxv, p. 69.
7. Thomson: Lancet, 1892, vol. i, p. 1292.

There had been no vomiting and the movements had been normal. He had lost a little weight and much color. He had had no fever at any time.

Physical Examination.—He was well developed and nourished. There was moderate pallor. The anterior fontanelle was widely open, the head somewhat square. There was a marked rosary and moderate enlargement of the epiphyses at the wrists. There were two lower incisors. The gums were normal. The kidneys were not palpable. The genitals were normal. No evidence of tumor of the bladder could be made out. He cried when his legs were handled. Both active and passive motions were free, however, and there was no enlargement of the bones. His eyelids were slightly puffy. Numerous ecchymoses, which had previously escaped notice, were present on the knees, forehead and body.

Treatment.—The diagnosis of scurvy was made and antiscorbutic treatment instituted. Recovery was almost immediate.

CASE 4.—J. S., 10 months old, had been fed for some months on a home-modified milk, pasteurized, and on the whole had done very well. About two weeks before I saw him his mother noticed that the urine was bloody. She took it to her family physician, who examined it and found fresh blood, but nothing else abnormal. He did not understand the condition and gave nux vomica as a tonic. The urine continued to contain blood, the amount varying from time to time. About a week after the urine became bloody, the mother noticed that he disliked to be handled during his bath. She soon discovered that his legs and back were tender. This tenderness increased. The diagnosis of rheumatism was then made by the attending physician and tonics prescribed. The swelling of the gums had not been noticed.

Physical Examination.—He was rather pale. The gums were somewhat swollen and a little purplish about the four lower teeth. He held both legs slightly flexed at the knees and thighs. Passive motions were not limited, but caused considerable pain. There were no subcutaneous hemorrhages. The physical examination was otherwise negative.

Treatment.—The diagnosis of scurvy was made, and unpasteurized milk, orange juice and beef juice ordered.

He was very much better in two days, and well in a week. The blood quickly disappeared from the urine and did not recur.

In these cases other symptoms of scurvy were present and revealed the nature of the hematuria. In the following cases hematuria was the only symptom. Their rapid response to antiscorbutic treatment, however, justifies the diagnosis of scorbutic hematuria in them also.

CASE 5.—L. P. was the first child of healthy parents. She had always been fed on pasteurized milk prepared at the Walker-Gordon laboratory. She had done very well until she was 6 months old, when she ceased to gain and lost her appetite. When she was 7 months old her mother noticed that at times the urine stained the diapers red. This staining was attributed by the physician in charge to uric acid. It continued intermittently for a month, when the urine was examined and found to contain fresh blood, but no casts. There were no other symptoms whatever, except failure to gain in weight. Orange juice was begun the next day. The urine was clear in less than two weeks and has so remained. The child also at once began to gain in weight.

CASE 6.—S. T., 8½ months old, had been fed for two months on a modified milk prepared with Mellin's food. She had lost her appetite and had not gained for over a month. Otherwise she had seemed perfectly well. When she was about 6 months old her mother noticed that the urine stained the diapers red or brown. She did not report it, however, until two weeks later. The urine was then red, alkaline, and contained ¼ per cent. of albumin. The sediment showed much normal blood, with an occasional hyaline cast and small, round cell.

The physical examination was entirely negative except for a slight rosary. Orange juice was begun at once. Improvement in the color of the urine was noticed in twenty-four hours. It was clear in five days and so remained. The appetite also improved at once, and gain in weight began and continued.

CASE 7.—F. F., 10 months old, had been fed on Eskay's food for some months. The Eskay's food was boiled in water and then milk was added to the boiling mixture. This undoubtedly sterilized the milk. He had apparently done very well on this food, except that his bowels had been somewhat constipated. He had been unusually fussy for two or three days, and the day before had passed bloody urine in small amounts. The urine had continued bloody, and that morning there was a little puffiness about the right eye. Acute nephritis was suspected by his father, who was an apothecary, and by the attending physician.

Examination.—Physical examination showed nothing whatever abnormal, except a slight rosary and a slight swelling above the right eye. There were four teeth, but the gums were healthy. There was no tenderness of the extremities or pain on motion. The urine was red, acid, of a specific gravity of 1008, and contained ⅛ per cent. of albumin. The sediment showed much normal blood and an occasional leucocyte.

Treatment.—The Eskay's food was continued, but was cooled before the milk was added. He was ordered orange juice and beef juice. He refused the orange juice, but took the beef juice very well. The urine was clear in five days.

In one of these cases the onset of the hematuria was accompanied by pain and tenderness in the extremities. In one the hematuria preceded any other symptom of scurvy by three months; in another by three weeks, and in another by one week. In three others in which the hematuria had been present for one month, two weeks and two days respectively, without any other symptoms, recovery was almost immediate under antiscorbutic treatment. These cases seem amply sufficient to prove that hematuria may be the earliest, and for a time the only symptom of scurvy.

The fact that all these cases were seen within three years goes to show that they can not be very uncommon. During the same period only one case of hematuria in an infant from any other cause was observed. This shows that scurvy must be one of the more common causes of hematuria in infancy. In fact, my experience leads me to believe that it is the most common cause of hematuria in infancy.

Few physicians realize, I think, that an uncomplicated hematuria in infancy may be due to scurvy or take it into consideration when seeking the cause of a hematuria. Certainly no one of those who saw the cases just reported had considered or even suspected scurvy as an etiologic factor. It is with the hope of again bringing the importance of scurvy as a cause of hematuria in infancy to the attention of the profession that these cases are reported.

CONCLUSIONS.

Hematuria may be the earliest symptom of infantile scurvy, and therefore for a time the only symptom. Scurvy is the most common cause of uncomplicated hematuria in infancy.*

DISCUSSION.

DR. LOUIS CURTIS ABEL, Brooklyn, asked Dr. Morse which method of collecting urine from small children he recommends. There are various ways of doing it, but none is very satisfactory.

DR. WILLIAM L. STOWELL, New York City, said that the best method of obtaining urine from very young children is to pass a small catheter. He considers that the whole subject of disturbances of the blood, including cases of scorbutus and hemophilia, is still very much confused. It is very difficult to say which form of blood disorder we have to deal with, and what

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the cause of it is. If there is a special germ it has not been found. Neither has a special remedy been found. Hemorrhage is an important symptom in most of these cases; the bleeding usually occurs in the skin or in the internal organs. The urine of young infants is too frequently neglected. If it was systematically examined in all cases, this symptom of hematuria would no doubt be more frequently seen. Hematuria in the adult may be caused by stone, but as this is comparatively infrequent in infants, the bleeding usually can be traced to one of these blood disturbances. Dr. Stowell's impression is that these blood disorders are due to a specific germ. Although one or two such micro-organisms have been claimed to be discovered, the findings lack confirmation. At present adrenalin seems to give the best curative results.

DR. H. M. MCCLANAHAN, Omaha, stated that hematuria may be the first and only symptom of infantile scurvy for a considerable time. This disease is wholly curable if it is recognized within a reasonable time, before secondary changes have taken place.

DR. J. ROSS SNYDER, Birmingham, Ala., thinks that this symptom is likely to be overlooked unless careful search is made for it.

DR. J. L. MORSE said that he had never found any difficulty in collecting the urine of babies. For little boys he uses a bottle with a wide mouth, which is tied around the waist with a band. In little girls one method is to place a rubber basin in the diaper. Another is to place the child on a Bradford frame with a vessel underneath to catch the urine, and a third is to fasten a tin cup against the vulva. In private practice he has found that if a child has not passed urine for a number of hours and is then held over a vessel, it will almost always be ready to urinate. The old-time method was to place absorbent cotton in the diaper. If it is absolutely necessary to find out about the urine he does not hesitate to pass a catheter.

A SUMMER'S EXPERIENCE WITH INFANTILE DYSENTERY.*

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INTRODUCTORY.

During the summer of 1902, C. W. Duval and V. H. Bassett, working in the laboratory of The Thomas Wilson Sanitarium under a grant from the Rockefeller Institute for Medical Research, were able to isolate the *Bacillus dysenteriæ* (Shiga) from the dejecta of 42 infants suffering from diarrheal disorders. A careful review of the histories of these patients[1] led to the conclusion that this series of cases were identical clinically with several well-recognized types of intestinal diseases prevalent among infants during the summer months, and that this organism was associated with a considerable proportion of cases of so-called summer diarrhea. It was then hoped that further investigation would confirm these findings and establish a connection between this bacillus, for several years known to produce intestinal diseases in adults, and this widespread yearly epidemic among young children.

Last summer similar studies were carried on in several of our large cities, and again at The Thomas Wilson Sanitarium Bassett succeeded in finding the dysentery bacillus in the stools of a series of upward of forty babies. In general, the work of Duval and Bassett has received abundant verification, and it is felt that an important contribution to our knowledge of summer diarrhea has been made. Dr. Bassett will report the results of his laboratory studies separately. Dr. Winne, clinical assistant at the sanitarium, will discuss the results of a long series of observations made on the agglutination reaction of the organisms isolated, and of dysentery bacilli from other sources with the blood of the patient and with antidysenteric serum. In this paper attention is particularly directed to the clinical side of the problem, the causes predisposing to this malady, the nature and severity of the attack, and the more hopeful methods of prophylaxis and treatment. Especial reference is made to the use of antidysenteric serum. This study is confined to a consideration of positive cases; that is, to those in which the dysentery bacillus was successfully demonstrated in the stools. Other cases were treated during the summer, presenting similar symptoms, and which were, in all probability, infected with the same organism. However, it is thought that more convincing deductions can be drawn when only those instances are considered in which the etiology of the disease has been definitely determined. There were 43 of such positive cases. As is brought out in Dr. Bassett's report, they were all infected with the so-called "acid type" of the bacillus; that is, with the variety of organism which ferments mannite with acid production.[2] The more important features brought out in this study are presented as succinctly as possible in short tables.

AGE AND SEASON.

The ages of the patients in periods of six months have been averaged in the following table and grouped according to the season (fortnight) of the summer in which they have occurred.

TABLE A.

	June.		July.		August.	
Age in months.	1-15	15-30	1-15	15-30	1-15	15-30
Birth to 6.....17	0	2	6	7	2	0
6 to 12.....18	1	3	4	6	3	0
12 to 18.....6	0	3	1	2	0	0
18 to 24.....1	0	0	0	1	0	0
Older than 24...1	0	1	0	0	0	0
43	1	9	10	16	7	0

The tabulation indicates emphatically the great susceptibility of children during the first year to the invasion of the dysentery bacillus. The number of cases under six months about equal those in the second half of the year, while those under twelve months of age comprise 80 per cent. of the whole number. After the first year the susceptibility to these disorders is rapidly reduced, although the exposure to the infection is probably as great. The youngest patient in the series was six weeks and the oldest three years. In general, it may be said that the resistance of the body to the progress of the disease is somewhat increased in the later months of the first year.

A review of our cases indicates that the very young infant more often succumbs to the intoxication of the first infection, while a child a few months older may resist this danger only to yield finally to a severe inflammatory lesion of the intestinal wall. Certainly, other things being equal, the prognosis is materially better after the first year. That portion of the table which indicates the number of cases admitted each fortnight during the summer needs no comment. The summer of 1903, because of the absence of any excessive or continuous heat, was possibly not a fair average of the climatic conditions in Baltimore from June to September. Nevertheless, the times of greatest pressure for admission of diarrheal cases to the sanitarium corresponded

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. S. W. Kelley, H. M. McClanahan and John C. Cook.

1. KNOX: THE JOURNAL A. M. A., July 16, 1903.

2. Lentz: Zeit. für Hygiene, vol. xii, p. 3.

closely to those in much warmer seasons. It is seen from this series that comparatively few infants are infected until the latter part of June, that the number increases through July, reaching its maximum in the second half of that month, and that in August there is a decline in the number of cases. These positive cases are far too few to admit of much generalization. It may be affirmed, however, that they agree closely with a similar series obtained in 1902,[1] and it is of some interest to point out that both in the period of life in which the child is most susceptible and in the time of the year most favorable to the outbreak and spread of these specific disorders, there is entire accord between this illness due to the dysentery bacillus and the so-called summer diarrheas in general.

FOOD AND HYGIENIC SURROUNDINGS.

It has long been emphasized by physicians that the character of the baby's food and the care the child receives in the home have most to do with the presence or absence of diarrheal diseases. The importance of these factors has been clearly pointed out by Park and Holt in their extensive investigations in New York City during the past two years.[2] In each case in the present series an especial effort was made to ascertain the nature of the previous surroundings of the patient, the kind of attention it had received and the character of its diet. This knowledge of the hygienic condition in which the baby lived was acquired by questioning the mother as to the size of her house, the number of people sleeping in the room with the baby, her methods of bathing the patient and the preparation of its bottle. This information was compared with the appearance of the mother and child at the sanitarium and the care given to the baby by the mother during their stay. In many instances direct reports were also obtained from the district nurses employed by the sanitarium in the city. All these factors have been grouped under three grades—good, fair and bad. When these conditions are said to be "good," it is meant that the house is well kept and clean, that the child receives sufficient attention, and that the food is prepared in a cleanly manner. In this class are included several infants whose food was not suited in quantity or quality to their needs and who were fed irregularly. In the group called "fair," although there was some endeavor to care for and feed the baby, it suffered evidently from some form of neglect. When the conditions were designated "bad," the home was judged to be extremely dirty, ill-ventilated, and the attention given the baby reduced to a minimum.

It should be said that our patients as a rule did not come from the criminal or degraded classes found in our large cities. For the most part they were the children of the poorer working people, while about 20 per cent. of them belong to families having their own houses. There are but few large tenement buildings in Baltimore, and crowding usually takes place when several families live in one small house. (See the table below.)

The cow's milk "fair" referred to in the table was delivered at the home from a wagon or bought at a dairy store. In but few instances was bottled milk sold. Usually it was ladled out of a large can into a pitcher. This milk will average at the wagon about 500,000 bacteria to each cubic centimeter. The cow's milk "store" is milk bought for the patients at small grocery stores where there is no suitable refrigeration and where frequent contamination from dirty utensils takes place. This milk was found, in an investigation in Baltimore in 1901 by Bassett and myself,[4] and in 1902 by Schorer,[5] to contain from 500,000 to 25,000,000 bacteria to the cubic centimeter, and this number doubtless rapidly increases in the homes.[6] The frequent use of preservatives in milk of this grade is well known. The "heating" mentioned usually means that the milk is scalded or just brought to a boil over the fire. In no case was steam sterilization or pasteurization employed. As would be expected, better hygienic surroundings, some refrigeration and an improved quality of milk were generally found in the same families. Several points suggested by the table are worthy of consideration, and are as follows:

FOOD AND HYGIENE.

Food at time of illness.	Total.	Hygienic condition.			Refrigeration.		Water with or between nourishment.		
		Good.	Fair.	Bad.	Ice.	No ice.	Boiled.	Unboiled.	Never given.
Breast, exclusive	2	0	0	2	0	0	0	1	1
Cow's milk (fair) heated	11	5	3	3	7	2	2	7	2
Cow's milk (fair) raw	6	1	2	3	1	3	0	5	1
Cow's milk (store) heated	4	0	1	3	1	3	2	2	0
Cow's milk (store) raw	5	0	3	2	0	5	0	4	1
Condensed milk	14	5	5	4	1	6	4	10	0
Table diet	1	1	0	0	0	0	0	1	0
	43	12	13	13	10	19	8	30	5

First, infants exclusively breast-fed seldom succumb to the dysentery bacillus, there being but two such cases in our series.

Again, the division of the babies into groups according to the form of nourishment antecedent to their illness gives rather surprising results. Thus the number of infected infants in our series who received milk of a fair quality is 17, while there were but 9 who were given notoriously bad milk. These figures are in part accounted for by the fact that mothers of the better classes—those who procure fair milk for their children—are more apt to avail themselves of a distant sanitarium when their children fall ill than are the very poor.

That the number of the cases who were given their milk *boiled* should be greater than those who received it raw, is also unexpected and probably would not be the result in a larger series. It does suggest the possibility, however, that the infective agent may reach the baby by other means than in its milk.

Although but one child was fed exclusively at the table, crackers, bread, cake, often tea or coffe, were occasionally given to a dozen others.

The largest single group of cases—one-third of the whole number—had been nourished on condensed milk.

3. Archives of Pediatrics, vol. xx, 1903, p. 881.

4. Maryland Med. Jour., xlv, 1902, p. 241.
5. Maryland Med. Jour., xlvi, 1903, p. 215.
6. Compare investigations made by Park and Holt, loc. cit.

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In Baltimore condensed milk is largely used among the lower and middle classes as an infant food because of its cheapness. Fully one-half of the children admitted to the sanitarium have been fed on condensed milk during a large part of their infancy. The experience at Mt. Wilson lends support to the generally accepted decision that the resistance of children so nourished against many untoward influences is materially lessened.

The data under the head of "refrigeration" resolves itself into an inquiry as to whether the milk was kept on or near ice. It was impossible to ascertain the temperature of the milk, and it is quite possible that the association between it and the ice when present, may not have been an intimate one. The fact, however, that in a quarter of all the cases ice was provided in the home, indicates again that our patients did not come from the very poorest families.

The results of the tabulation of these cases with respect to the hygienic conditions pertaining at the homes, as this could be ascertained from the account and appearance of the mother, was also surprising, in that the number of ill babies brought up under good, fair and bad surroundings, respectively, was so nearly equal. It must be recalled, however, that these were all children of parents of moderate means, and in no case were the conditions of life so ideal as they may be in the homes of the rich. But after due weight is attached to these partial explanations, this discrepancy between the number of cases on the one hand, and the quality of the milk and the character of the hygienic surroundings on the other, makes it difficult to charge either to the milk or to the daily care of the infant alone this outbreak of diarrheal diseases due to the dysentery bacillus. A primary infection of the whole milk supply of the community with the specific organism is an impossible hypothesis, as our patients entered the sanitarium already ill from widely separated sections of the city and obtained their milk from a large number of remote sources. Moreover, most of it was boiled before using, and many fed exclusively on condensed milk received no fresh milk at all.

Negligence in the care of the baby, although a factor, is not a satisfactory explanation, in view of the fact that a considerable number of the ill children in the series had been well cared for. The nature of the disease itself predisposes an invasion of the intestines by the dysentery bacillus, the mouth being the chief portal of entry and food and drink the most probable means of conveying infection. Further evidence in this direction is evinced by the fact that in the homes of our little patients there were no others suffering from diarrheal diseases; that is, in almost every instance the illness of the baby was the first and usually the only case of intestinal disorder in the family.

If the disease were spread primarily by contact, either direct or indirect, from patient to patient, surely in a large percentage of cases similar antecedent illnesses in the household could be discovered. The nature of the outbreak of the disease suggests rather that the causal organism reaches the individual through a common carrier. Practically in large cities the water is the only material ingested by the whole population from a common source. This is particularly true of infants whose only food, milk of some sort, is derived, as has been said, from widely separated herds. Moreover, the biologic character of the specific organism places it in the typhoid-colon group of bacilli, which are introduced into the human body most frequently by means of drinking water, and clinical experience indicates that diarrheal disorders among infants can best be controlled by certain precautions such as are found most efficacious in typhoid fever, without resort to the complete isolation necessary in the so-called contagious diseases.

An especial endeavor was, therefore, made to ascertain whether the water supplied to ill babies could possibly be charged with the carrying of the infection; that is, if all of it was boiled or unboiled. The results of the investigation for 1903 are tabulated in the third column of the table. This indicates that to 29 infants, out of a total of 43, or about 70 per cent., *unboiled* water was supplied regularly in the intervals between nourishments, or was used as a diluent of the milk. Eight infected babies, or 19 per cent. of all the cases, were said by their mothers never to have received any other than boiled water, while in the case of five infants it was denied that water of any kind was given. Of the eight cases given, according to the mothers' account, only boiled water, two lived under "good," four "fair," and two amid "bad" hygienic conditions. By careful questioning concerning the diet, it was discovered that four of the eight babies were given crackers or bread from the table, hence it is probable that in these instances unboiled water was also occasionally obtained. These results corroborate the experience of the previous summer, where, in twenty-eight instances in which definite information was obtained, unboiled water was supplied to twenty-six infants infected with the dysentery bacillus, four of whom were fed exclusively at the breast and four on condensed milk. While these cases are too few to warrant any sweeping conclusions as to the manner of the spread of these disorders, especially in the absence of a demonstration of the specific organism in drinking water, so far as they go they do suggest the possibility that the disease may be in large part water borne, and justify the adoption of stringent regulations preventing any but sterile water being supplied to babies, especially in the summer. The difficulty of isolating the typhoid bacillus in water shown to be contaminated is well known, and it is quite possible that the dysentery bacillus present in the water in small numbers has thus far escaped detection.

OTHER METHODS OF INFECTION.

Other methods of infection are of course recognized. Thus in hospitals where many sick infants are cared for, specific organisms may be conveyed from case to case by fomites or careless attendance. Sufficient attention has not been directed to the part played by insects, particularly the common house fly, in the spread of this malady in institutions and crowded communities. One can easily be convinced of this danger by an hour's observation in any children's ward where these pests are numerous. Without the most rigid surveillance by numerous care-takers, these flies often find access to the napkins of the infants, whence carrying the organism they may light next on the face, hands or bottle of a neighboring child. Two cases during the last two years, admitted to the sanitarium for other causes, became infected with the dysentery bacillus through flies.

CONDITION OF PATIENTS PREVIOUS TO ILLNESS.

Turning now from the home diet and environment of the patients, let us consider their actual physical condition before the onset of the specific illness. In reviewing the histories one is surprised at the small number of instances recorded in which acute sickness had anteceded the diarrheal attack. Thus bronchitis and

pneumonia were each noted twice and gastric colic once. These disorders all occurred several months before the intestinal disease and apparently had no association with it. There was but a single instance in which there had been an attack of diarrhea previous to the one from which the patient was suffering on admission; that is to say, the children were brought to the sanitarium during the course of their first illness.

The nutritional condition of the patients is not indicated by their freedom from previous acute illness. A small percentage only of the patients were "well nourished," 25 of the series showed pronounced stigmata of rickets, and 10 were markedly emaciated. These conditions had been brought about by food, improper either in kind or quantity, or both, and by insufficient care.

In but two instances could a history be obtained of any special indiscretion in diet before the onset of symptoms. In one of these, vomiting and purging began in a boy of 3 years, the oldest of our cases, after a meal of peanuts. This child was desperately ill with ileocolitis. The other instance was in a seven months' infant whose acute symptoms, ending in convulsions and death, followed the eating of a piece of banana.

In none of the other cases was there a history of any alteration in the diet of the patient to be obtained from the mother. Frequently the babies had not been thriving and had been losing weight, when, without any cause to which the mother could attribute it, the symptoms pointing to intestinal disorder set in. It would seem, then, that all young children are susceptible to infection with dysentery bacillus, but that its most numerous and least resisting victims are the infants whose vitality has been lowered by improper food and insufficient care.

TEMPERATURE.

A factor of undoubted importance in the spread of the disease in a community is the degree of atmospheric heat. It was found that the number of our specific cases was almost in direct relation to the height of the thermometer; that it could be predicted certainly that an increased number of babies infected with the dysentery bacillus would apply for admission after an unusually heated term. In this respect and in regard also to the nature of the cases most susceptible, our experience was identical with that of the great mass of clinical data for summer diarrheas in general.

DURATION OF SYMPTOMS BEFORE ADMISSION.

The difficulty of securing the admission of patients immediately after the onset of symptoms in any sanitarium distant from the city has already been pointed out. The tendency is for the mothers to attempt home remedies before medical aid is sought, unless the initial symptoms are very alarming. On account of this delay and the serious nature of the majority of the cases under observation, all methods of treatment are under considerable disadvantage. The series of cases have been divided into three groups, in reference to the duration of disease before admission, as follows:

1-10 days.	10-20 days.	More than 20 days.
13	11	19

But one case was seen on the first day and but four before the sixth day. Nearly half of the whole series came under treatment after three weeks of illness. Most of these were admitted in the latter half of July and in August.

LENGTH OF TIME UNDER OBSERVATION.

There was no fixed duration to the stay of the patients at the sanitarium. They were kept until it was thought they were able to go home safely. Occasionally circumstances in the city required a return sooner than was advised. As a rule, the mothers preferred to have the desperately ill babies remain at the sanitarium until the end, notwithstanding a grave prognosis had been given. The time these 43 cases were under observation at Mt. Wilson varied from one day, in the case of a baby admitted in a comatose condition and which died the following morning, to forty-seven days, the average for the 43 cases being seventeen days. The more protracted cases occurred, as a rule, late in the summer.

CONDITION OF THE PATIENTS ON ADMISSION.

The condition of the infants admitted presented wide variations, and is of sufficient importance to tabulate:

CONDITION ON ADMISSION.

Good.	Fair	Toxic.	Marantic.	Collapsed.
5	10	14	10	4

The cases whose condition was "good" presented few symptoms on admission other than diarrhea. Where the infants showed in addition slight constitutional disturbance, their condition was called "fair." The cases "toxic" on admission showed very marked symptoms of infection. The large marantic group has already been referred to. Four infants were admitted, pulseless at the wrist, and unconscious in profound collapse.

TYPES OF THE DISEASE.

A persistent effort was made during the last two summers to detect some signs or symptoms at the bedside that would differentiate the infants infected by the dysentery bacillus from other cases of summer diarrhea. Thus far, this effort has been quite futile, for the babies whose stools contained the specific organism presented no uniform clinical picture, but included rather all the varieties of illness that are commonly included under the designation "summer diarrhea." As was found also during the preceding summer, the cases could be divided broadly into two groups—one in which the chief symptoms were apparently due to the absorption of toxins from the intestinal tract, while in another form, in addition, the character of the stools or the autopsy findings indicated marked inflammatory lesions of the bowels.

The cases in the first group presented great variations in the degree of the toxemia, some exhibiting symptoms only of mild gastro-intestinal disorder, while in others the condition was one of profound poisoning associated with convulsions and ending in coma and death. No instance of typical cholera infantum was encountered.

A sharp line of separation can not be drawn between the two groups of cases above indicated. Usually the typical instances of ulcerative ileocolitis began as dyspeptic diarrhea. It was thought well to make use of the grouping, however, as it illustrates that the dysentery bacillus in the intestinal tract does not produce a simple, clear-cut, clinical disease entity, but rather that its manifestations are manifold, that it is responsible for a large train of symptoms which correspond accurately to those of the various diarrheal disorders common among children in the summer.

Our cases may be divided in accordance with the foregoing remarks, as follows:

	Mild.	Moderate.	Severe.
Cases presenting chiefly toxic symptoms, "dyspeptic diarrhea"	5	6	10
Cases of inflammatory or destructive lesion of the intestine, "ileocolitis"	0	8	15

To detail the clinical history and the bedside notes in each of our series would involve much valueless repetition. Later, in discussing the serum treatment, sev-

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eral cases which serve as fair representatives of larger groups will be presented in full. Nearly all the babies exhibited nervous symptoms, as indicated by irregular and insufficient periods of sleep and by fretfulness. Less frequently increased drowsiness ending in coma was observed. Symptoms pointing to functional derangement of heart or lungs were not present, except when the child was *in extremis*. On the other hand, tympanites, usually of a moderate grade, was frequently observed, and tenesmus was a troublesome feature of the severer forms with ulceration. The symptoms fairly constant in all forms of these disorders were vomiting, diarrhea and elevation of temperature. A tabulation showing their frequency and severity has been arranged:

	Absent.	Moderate.	Severe.
Vomiting	9	23	12
Diarrhea	(1) 0	(2) 22	(3) 13
Fever	(4) 9	(5) 17	(6) 26

(1) Less than 4 stools in 24 hours.
(2) Four to 15 stools in 24 hours.
(3) More than 15 stools in 24 hours.
(4) Temperature not over 99.
(5) Temperature between 99 and 101.
(6) Temperature higher than 101.

Of the group in which the fever was high,[7] in thirteen instances the temperature showed marked daily variations. The nausea and vomiting was a frequent symptom at onset, but was also a troublesome feature in many of the severe cases throughout their illness.

There was always some elevation of temperature above normal, but the height of fever was of itself not a sure index of the condition of the patient. In many of the toxic cases the temperature curve remained continuously high unless reduced by sponging. Most of the instances in which the fever showed the marked daily intermission belonged to the "ileocolitis" group, having blood and pus in the stools. It is quite possible that the hectic character of the fever in these cases was due to a secondary infection. There is ground for the view that the destructive lesions, ulceration in the bowel in this form of the disease, are due to streptococci[7] and other organisms superimposed on a primary infection with the dysentery bacillus. Much interest attaches also to the character of the stools of these cases, because from them information is obtained concerning the condition of the intestinal wall.

All the children exhibited more or less looseness of the bowels. The average number of stools in twenty-four hours in the cases where the diarrhea is described as "moderate" was about ten. In but one case was there but four stools, and in this instance the child passed shortly out of observation. In several children the number of stools reached forty in twenty-four hours.

A brief summary has been made of the presence in the dejecta of mucus, blood and pus as follows:

CHARACTER OF STOOLS.

	None.	Trace.	Moderate.	Much.
Mucus	0	4	30	9
Blood	18	10	13	2
Pus	10	11	15	8

It is, of course, recognized that such a division must be largely arbitrary, but it is thought that with a word of explanation it may serve to indicate the general nature of the discharges. The naked eye appearance of the fresh stools on the napkin, supported in most instances by a microscopic examination, formed the basis of the division. Thus when blood and pus are said to be "absent," it is not contended that no red blood cells or polymorphonuclear leucocytes whatever are present, but that neither of these elements could be detected macroscopically, and that they were only very sparingly found with the microscope. A "trace" of, a "moderate" amount of, or "much" mucus, pus or blood, on the other hand, indicates the detection by a simple inspection of increasing quantities of these materials, respectively, the naked eye appearance being corroborated with the microscope. Epithelial cells, swarms of bacteria, various crystals, curds and undigested food residue, fat droplets, and other elements found in normal stools were likewise noted in our examinations. Mucus was present in all cases, both mild and severe, whether belonging to the so-called inflammatory or toxic types. In the majority of instances it was present in considerable quantities. Blood, on the other hand, was not noticed during the entire course of the illness, either at home or at the sanitarium, in 15 cases, or 35 per cent. of the whole number, and only a "trace," often a mere fleck on the napkin, such as could result from a simple congestion of the mucosa, was present in ten additional instances. Blood frequently stained the napkins in 16 cases, but was present in large amount in but two instances. In no case was there active hemorrhage. No pus was present macroscopically in 10 cases throughout their sickness, and only a trace was noticed in the stools of eleven other babies.

These results substantiate the contention that the infection of infants with the dysentery bacillus does not necessitate a disease comparable with adult dysentery, but rather that not exceptionally, but frequently, this organism may produce a mild disorder.

COMPLICATIONS.

Complications were comparatively rare. Eclampsia occurred at the terminal event in three cases—one of severe dyspeptic diarrhea and two of ileocolitis. Bronchopneumonia was recognized but twice in our series; each time it proved fatal, in malnourished infants. One baby of two months died with symptoms of intestinal obstruction. No necropsy was allowed. A general pyemia proved in one instance a fatal complication. Frequent urine examinations and an occasional autopsy failed to disclose a definite nephritis in any of our cases.

RELAPSE.

In six instances a return of the disease occurred after the patient, being apparently well,or improved, had been discharged from the sanitarium.

These relapses took place in the latter part of the summer, and after periods of from five days to three weeks from the return of the child to its home. In each case pure milk was provided at the house, and the environment of the baby made as healthful, by a visiting nurse, as the conditions at the home permitted.

The occurrence of relapse in these disorders is of the utmost importance, as it indicates the difficulty of setting a time when a case may be considered cured and become of no further danger to the patient or to others, and at the same time it suggests that one attack confers on the infant no immunity against a subsequent infection. In all six of the instances cited the second illness was more severe than the first. Three cases seemingly recovered from dyspeptic diarrhea, returned with symptoms of severe ulcerative lesions of the intestine. Probably from these infants the dysentery bacillus had never been completely removed from the intestinal tract, although present in too small numbers to produce symptoms, and only needed an opportunity to again set up the disease.

When we consider that the purest milk affords excellent culture material for the development of specific organisms already in the bowel, and also that because of the technical difficulties of their isolation a single negative examination of the stools is of little significance,

7. Blum: Arch. of Pediatrics, xxi, January, 1904.

the practical difficulties of dealing wisely with the question of relapse are greatly increased. Certainly it is true that a child once infected in hot weather should be carefully fed and kept under medical surveillance for several weeks after the abatement of all symptoms.

RESULTS.

The results of treatment in the series have been tabulated briefly with reference to the clinical forms of the disease which are still tentatively retained.

Toxic type—	Well.	Improved.	Unimproved.	Died.
Mild	3	2	0	0
Moderate	3	3	0	0
Severe	2	5	0	3
Inflammatory type—				
Mild	0	0	0	0
Moderate	3	1	0	4
Severe	2	1	1	10
	13	12	1	17

Of the 43 cases under treatment, 25, or 58 per cent., were cured or improved, and 18, or 42 per cent., died or were discharged unimproved, the mortality for the series being 39 per cent. It is striking that there should be such great disparity in the results obtained with the cases of the toxic type. Thus, of the 25 children improved at the sanitarium, in 18 were there no symptoms indicating marked intestinal ulceration, while these symptoms were present in 15 of the 18 fatal cases. Because of the established fact that the severer inflammatory forms begin often as mild toxic infections, the figures here tabulated argue strongly the importance of prompt abortive treatment.

The results can also be profitably tabulated with regard to the character of the diet previous to admission:

	Well.	Improved.	Unimproved.	Died.
Cow's milk of all kinds, raw and heated	20	10	7	3
Condensed milk	14	1	5	8
Table diet	1	1	0	0
Breast exclusively	2	1	0	1
	43	13	12	1	17

It is to be noted that of the 14 cases which had been previously fed on condensed milk, 8, or 57 per cent., died at the sanitarium in spite of treatment, and but one really recovered; while of the 26 cases given at their homes some form of cow's milk, but 8, or 29 per cent., died, 7 were improved and 10 were permanently cured.

It was found that the results of treatment were not appreciably affected by the character of the cow's milk supplied the babies before they came under observation; that is, that whether the milk had been "poor" or "fair," "raw" or "boiled" did not apparently alter the course of the illness after the disease was under way. On the other hand, these figures support the view already expressed that although condensed milk-fed infants may be less liable to become infected by the dysentery bacillus, especially if care is taken that all the water used is boiled, than are babies fed during the summer on cow's milk of poor quality; yet when the specific organism does find entrance into the body, the children reared on proprietary foods are more liable to succumb.

If future investigations should determine the dysentery bacillus to be, in small numbers even, a normal inhabitant of the intestinal tract of children, the danger of lowering the individual's resistance by condensed milk feeding will be still further emphasized. The fatal illness of the breast-fed child was that of a weak, emaciated baby nourished by an overworked, anemic mother.

The results of treatment with reference to the age of the patient may also have some interest:

	Well.	Improved.	Unimproved.	Died.
Birth to 6 months	17	4	6	1	6
6 to 12 months	16	3	5	0	10
12 to 18 months	6	5	0	0	1
18 to 24 months	1	0	1	0	0
Two years +	1	1	0	0	0
	43	13	12	1	17

Deductions must be warily drawn from such a small number of cases. Our experience would indicate that during the second six months of life the invasion with the dysentery bacillus is more likely to prove disastrous than at an earlier or later period. Thus, out of 17 cases under 6 months, 10 were bettered and 1 unimproved, with 6 deaths, a mortality of 34 per cent.; but of 18 cases between 6 and 12 months of age, only 8 were bettered, none improved, and 10 died, a death rate of 55 per cent. The difference is to be accounted for in part at least by the fact that the untoward effects of improper artificial feeding are most in evidence in cases with weakened constitutions, rickets and the like, during the second half year of an infant's life. For a large part of the period preceding the mother is able to nurse the child and so carry it along for several months in good nutritive condition. Should the infant survive the first year it can then assimilate more readily the ill-assorted mixtures often provided for it as food. Of the 18 cases older than one year, but one, aged 13 months, resulted fatally, of ileocolitis.

(To be Continued.)

THE TREATMENT OF PURULENT CONJUNCTIVITIS.*

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The treatment of purulent conjunctivitis will always be of great interest to every practitioner in ophthalmology, and when the chairman of this Section asked me to read a paper on this subject I acceded, and the more willingly because the Massachusetts Charitable Eye and Ear Infirmary has a separate building, isolated from the main structure, which is devoted exclusively to the treatment of contagious diseases of the eye. For five years all cases of purulent ophthalmia applying to the institution for treatment have been promptly admitted to this building. The result has been that there has been brought together in the records of this pavilion a large number of cases, and this paper is chiefly a study of these records, to ascertain if possible which methods of treatment have been the more successful.

In looking over thirteen text-books published in the last twenty years, I find recommended the following measures for the treatment of purulent conjunctivitis: Cleanliness, iced compresses in the stage of swelling, with topical applications of nitrate of silver, solutions of the bichlorid of mercury, solutions of permanganate of potash, chlorinated water, iodoform and boric acid. Can these methods of treatment be improved? If so, by what means? This paper is an attempt to answer these questions.

Corrosive sublimate, permanganate of potash, iodo-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, John E. Weeks and R. L. Randolph.

form and chlorinated water have all been tried in the balance and found wanting. Therefore, for many years a solution of nitrate of silver has been the only topical application accepted for the treatment of this disease.

Purulent ophthalmia is due in the majority of cases to gonorrheal infection. If sought for, the gonococcus will be found in from 60 to 65 per cent. of the cases.

A differential diagnosis in a case of purulent conjunctivitis between a typical gonorrheal infection and one produced by the staphylococcus, streptococcus, or Klebs-Loeffler bacillus is not difficult, when the case has fully declared itself, but in the earlier stages absolute dependence must be placed on the bacteriologic examination, without which even the most expert are liable to be deceived. Thus in the last twenty months there have been admitted to the Gardner Building 91 cases under 5 years of age, in which it was thought probable that the infection might be gonorrheal or diphtheritic. The bacteriologic examination on entrance showed the infection to be Klebs-Loeffler bacillus in 2 cases, streptococcus in 1 case, staphylococcus in 17 cases, and the gonococcus in 64 cases, and 6 cases in which the infection was not determined except in so far as to prove it was not gonorrheal. In 1 case of staphylococcus infection there was ulcer of the cornea on entrance, and in another case a "steamy cornea" and a membrane on the palpebral conjunctiva. The diphtheritic cases under the use of antitoxin were both discharged with clear corneæ. The cases of staphylococcic infection also did well, as is almost always the case under any rational treatment.

Our disasters occur in the treatment of cases in which the gonococcus is the causative agent. Therefore, this paper resolves itself practically into the treatment of gonorrheal ophthalmia. It is a well-known fact that this infection is less difficult to manage in so-called cases of ophthalmia neonatorum than in the adult, but in both classes the virulence of the infections may vary greatly. It is not necessary for me to enter elaborately into the methods of caring for gonorrheal ophthalmia. The first essential is cleanliness. This can only be obtained by frequent washing of the lids with the removal of the pus, so far as is practicable from the conjunctival sac.

When nitrate of silver was relied on for the direct treatment of the disease the manipulations necessary to properly apply it and to wash off the excess of the solution greatly favored injury of the cornea with subsequent infection and ulceration, and cases where eyes were lost or vision destroyed were often due to this process. Of late years there have been presented to the profession silver salts, not so irritating as nitrate of silver, and much more easy of application. A solution of protargol or argyrol can be applied by simply pouring the liquid between the opened lids; moreover, the specific gravity of these solutions is such that, sinking to the bottom of the cul-de-sac, pus and mucus are floated to the surface and can be removed much more easily without the manipulative dangers to which patients were formerly exposed.

Two years ago, in a paper read before the New York County Medical Society, I made a comparison of results obtained in cases of ophthalmia neonatorum treated by nitrate of silver and protargol. I was able at that time to find 50 cases in the records of the Gardner Building in which the nitrate of silver had been the agent relied on. Of these 50 cases, there were three that had clear corneæ on admission, which subsequently developed ulceration of the cornea sufficient to interfere with vision. This showed 6 per cent. of unsuccessful cases. I found on the records at that time 150 cases in which protargol was the only remedy used. Among this number there were also 3 admitted with clear corneæ, which subsequently developed ulcers that greatly injured or destroyed sight. This gave 2 per cent. of unsuccessful cases. The protargol solution used was increased from 4 per cent. in the beginning to the habitual use of a solution of 20 per cent. and in the last 50 cases treated no baby with clear cornea on admission had any corneal complications.

The 50 cases in which nitrate of silver was used were in the hospital an average of twenty-three and one-half days, and the last 50 cases above referred to were in the hospital an average of sixteen and one-half days, making a difference of one week in the time of treatment. Since that paper was written argyrol as the local application in these cases has been largely used in the Gardner Building and I have been able to find on the records 64 cases of ophthalmia neonatorum with gonorrheal infection, which entered with clear cornea in which it was depended on as the principal agency. All of the 64 cases were discharged with clear corneæ, and the average stay in the hospital was eighteen and two-thirds days. I also found on the records 9 cases in which it was noted on entrance that the cornea was "hazy," in only one of which did any ulceration of the cornea follow. These cases, although naturally more serious, only remained in the hospital an average of twenty-two days. During the same period 9 cases entered which already had corneal lesions, in only one of which was the eye lost. From these cases it will appear that either of the modern silver salts gave much better results than was ever obtained from the use of nitrate of silver.

The routine treatment has been to wash the edges of the lids with a solution of boric acid once in half an hour, to put when necessary a little vaselin along the edges of the lids to prevent them from sticking together and to instill a solution of protargol or argyrol freely between the lids at intervals of from every hour to once in four hours. As has been before stated, the solution sinking to the bottom of the cul-de-sac floats to the surface the pus and mucus which can be easily removed with a very slight amount of manipulation. In no case has it been necessary to do a canthoplasty to relieve the pressure on the globe, and in no case has cold been applied at any time during the treatment. Cases in which there was "hazy" cornea as above noted have often had pilocarpin in 0.5 per cent. solution instilled once a day. Atropin has rarely been applied except in cases where the cornea was involved and no case was discharged until two negative smears had been examined under the microscope on successive days. From this it will be seen that in 114 consecutive cases admitted with clear cornea and treated with protargol or argyrol, no case has developed corneal ulcer, nor has any untoward incident occurred, and in 9 cases admitted with the cornea already threatened, only one ulcer developed. These results are surely brilliant as compared with those obtained before all the cases were admitted to the house and before modern silver salts were used.

The real value of any method of procedure in gonorrheal ophthalmia is the result obtained in gonorrheal infection in the adult. During this same period there have been admitted to the Gardner Building 89 cases of gonorrheal ophthalmia in individuals over five years

of age, of whom 48 were treated with protargol and 37 were treated with argyrol exclusively. In studying the relative value of the agents used, it is necessary to divide these cases into two classes: 1. Those admitted with clear corneæ; 2, those in which the corneæ were involved on entrance. The latter group includes, of course, all degrees of corneal lesions from the smallest infiltration to almost total ulceration.

It is obvious that from results obtained in this latter group very few deductions can be drawn, therefore the results obtained in the first group are of the most importance.

In the 48 cases treated with protargol the solutions used were 10 per cent. in 28 cases; 20 per cent. in 18 cases, and 30 and 40 per cent. in one case each. Of the 32 adult cases which were admitted with clear corneæ, 21 were discharged without corneal lesion, or 66 per cent., and of the 27 cases which were admitted with corneal lesions, or developed ulceration of the cornea, four eyes were lost.

It will be seen from the accompanying tables that the percentage of successful cases was much greater with the 10 per cent. solution of protargol than in any other group. In this group there were 28 cases, 18 of which were admitted with clear corneæ, 14 being discharged without complication—about 78 per cent.—and of the 14 cases in which the corneæ became involved only one eye

RESULTS OF TREATMENT OF GONORRHEAL OPHTHALMIA WITH PROTARGOL AND ARGYROL.

Per cent. used	Entered with clear cornea	Discharg'd with clear cornea	Entered with corneal lesion	Discharg'd with leucoma	Lost or total leucoma
Protargol....10	18	14	10	13	1
Protargol....20	12	5	6	10	3
Protargol....30	1	1	..	..	..
Protargol....40	1	1	..	..	..
	32	21	16	23	4
Argyrol 15	2	2	..	..	..
Argyrol 25	12	8	7	6	3
Argyrol 50	9	6	7	7	2
	23	16	14	13	5

was lost. With the 20 per cent. solution 12 entered with clear corneæ and 5 only escaped corneal infection, or 42 per cent., while of the 13 cases in which the cornea was attacked three eyes were lost, or had total leucoma. It is perhaps interesting to note that all four of the eyes lost entered with clear corneæ.

Of the 37 cases in which argyrol was used, the solutions were 15 per cent. in 2 cases; 25 per cent. in 19 cases, and 50 per cent. in 16 cases. Of 23 admitted with clear corneæ, 16 were discharged without corneal lesion, or 69.5 per cent., and of 21 cases in which corneal lesions were present on entrance, or subsequently developed, eight eyes were lost, three of which entered with clear corneæ. It will be noticed that the results obtained with the 50 per cent. solution were no better than with the 25 per cent. solution.

It would appear from the above tables that while the percentage of successful results with the two agents was not materially different in cases which entered with clear corneæ, that once the cornea has become involved, protargol seems to control the case more effectively. The advantage of argyrol is that it is practically unirritating and is much better borne by the patient.

One other factor in the treatment of gonorrheal ophthalmia to which I wish to direct your attention is the inadvisability of cold at any stage of the disease. Of the before mentioned thirteen text-books published in the last twenty years, ten advise the application of cold during the stage of swelling as a routine procedure. The statements made were generally of the following character:

"Iced compresses should be used during the stage of swelling;" "cold during the stage of swelling, then heat;" "iced compresses during the stage of swelling for an hour at a time, omitting an hour, and so on continuously;" "cold applications should be abandoned when the cornea has a steamy look; heat is then resorted to;" "iced compresses should be used until the discharge begins," that is until the growth of the gonococci has been well developed. And it was a fair inference from the context that the limited time allowed for the use of the iced compresses was due in each instance to the opinion of the author that cold was inimical to the nutrition of the cornea. If this is true a strong case must be made in favor of their use before they should be habitually employed. In these cases, as in the preceding, the value or detrimental effects of cold can only be determined by considering the cases that were admitted to the hospital with clear corneæ. Among the 85 cases which I have reported above as treated with protargol or argyrol, there were 17 cases admitted with clear corneæ which had cold applications made, of which 10 were discharged without corneal lesion, which gives 59 per cent. of successful cases. During the same period 38 other cases entered with clear corneæ and were treated without the applications of cold, of which number 28 were discharged without corneal lesion. This gives about 74 per cent. of successful cases. If the difference between 59 per cent. and 74 per cent. was due to the application of cold, it is surely inadvisable.

These cases were treated with cold, not because they were more virulent, but because the physician treating them habitually used cold applications in the initial stages of gonorrheal ophthalmia. The records do not state in every case the length of time the cold was employed, but the average time in which a definite statement was made was three and three-eighths days. There is no reason to suppose that it was continued over a longer period in the remaining cases. I have taken considerable trouble and time to ascertain the fact that the treatment otherwise than the application of cold was practically the same in all the 55 above cases. The ages of the patients were four between 5 and 20, ten between 20 and 30, one between 30 and 40, and two between 40 and 50. In each decade of life, it is roughly 25 per cent. of patients admitted with gonorrheal ophthalmia having clear corneæ, therefore the results can not depend on any difference in corneal nutrition between youth and middle life.

The rationale of the cold applications is somewhat difficult to see. If it is done merely to reduce swelling of the lids, ought not heat to be employed instead? Elsewhere heat promotes absorption in edematous conditions. If it is done, as I have heard it stated, for the sake of inhibiting the growth of the gonococcus, it does not seem to be any more rational. Neisser, in his recent article in Kolle and Wassermann's work, states that the growth of the gonococcus is inhibited when the temperature is reduced below 86 degrees Fahrenheit, and it is improbable that in any case the application of iced compresses to the lids could reduce the temperature below 86 degrees. As a matter of fact, since this paper has been under consideration, I have had a virulent gonorrheal case admitted to my service in which there was considerable, although not excessive, edema of the lids. A large slough of the cornea had already oc-

curred. In this case finely broken bits of ice wrapped in a thin layer of absorbent cotton were kept continually on the lids until the pain was sufficient to cause their discontinuance—a matter of twenty-two hours—and this was repeated after an interval. I caused the temperature in the conjunctival sac to be taken every hour. It is plotted here for the sake of brevity with two-hour intervals. It shows that before the cold applications were made, the temperature was 100 degrees, that during the application of cold the temperature fell to 98 degrees. On the removal of the cold the temperature rose to 99.5 degrees, and on the cold being renewed it was reduced as before.

From this chart, it will be seen that the utmost reduction of temperature obtained was only 2 degrees, being 12 degrees above the temperature which Neisser states is necessary to prevent the growth of the gonococcus. In the above-mentioned article, it is also stated that the growth of the gonococcus is inhibited by a temperature of 107.6 degrees Fahrenheit, but that inhibition is not so marked when the gonococcus is present in living tissue. Therefore, whether the application of heat would be beneficial must be determined by the clinical results obtained in cases where it is used. On this point, unfortunately, the records of the Gardner Building furnish us with no statistics. In this connection it is well to call attention to the fact that in the above reported 114 consecutive cases of ophthalmia neonatorum in which the cornea did not become involved, cold was used in no instance.

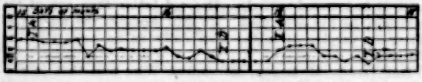

Chart showing result of applications of crushed ice. Observations taken at two-hour intervals. I. A., ice applied; I. D., ice discontinued on account of pain.

From the above facts it would seem that the application of cold is at least of doubtful value and that probably its effect is harmful.

CONCLUSIONS.

Recognizing the fact that final conclusions on any method of procedure can not be drawn from any limited number of cases, it would appear that so far as the evidence presented above goes, the following conclusions can be deduced:

1. That the newer silver salts are more easily applied, safer in use and produce better results than nitrate of silver.

2. That in cases of ophthalmia neonatorum either protargol or argyrol is an entirely satisfactory agent.

3. That in cases of gonorrheal ophthalmia in the adult, the results obtained when treatment is begun early are approximately the same with either preparation, but when once the cornea is involved, protargol appears, in these cases at least, to have afforded a better ultimate outcome.

4. That the application of cold during the stage of swelling in gonorrheal ophthalmia is a dangerous procedure and should be abandoned.

DISCUSSION.

DR. CASEY A. WOOD, Chicago, said that in the early days attempts were made to abort gonorrheal ophthalmia; hence the enthusiasm for nitrate of silver in strong solutions. The main reason for the retention of that treatment was that it did work which could be seen. In recent years a treatment not so irritating in character has been used. To his mind the chief consideration in the prevention of serious consequences is the cornea. He said that he believes that strong nitrate of silver solutions are occasionally harmful because of their irritating character. Ulcer of the cornea has been caused by eagerness to get at the root of the disease in this fashion and secondary troubles have been produced which are worse than the original infection. Another matter of importance is that of not irritating the infant and so making him cry. The moment a child is made to cry the lids become congested, their sharp margins are pressed against the cornea and, in its macerated condition, the anterior corneal epithelium is easily removed. Nitrate of silver applications make the child cry. Dr. Wood differed from Dr. Standish regarding the application of cold. Dr. Wood believes in it if judiciously applied. It may not affect the bacteria in the tissues that form the sac, but it makes the patient more comfortable, and this is of particular importance in the case of children. Dr. Wood agreed with Dr. Standish as to the cleansing of the eye. The sac can not be entirely sterilized nor even thoroughly cleansed, and when the discharge has been carefully washed off from the edges of the lids the physician has done about all he can in that respect. In Dr. Wood's opinion it is dangerous to do so much cleansing as is advised by some of the text-books; that is, with the aid of retractors, eversion of the lids, the use of irrigators, etc. Dr. Wood thinks that argyrol is a better preparation than protargol. It has a somewhat anesthetic effect on the cornea and conjunctiva and makes the patient more comfortable, which are distinct advantages, aside from any bactericidal property it may possess. Another remedy that has been somewhat overlooked is hydrastin. Dr. Wood uses the mixture introduced some years ago by Dr. X. C. Scott without the deodorated tincture of opium, and feels sure that it possesses valuable properties in the second and third stages of the disease.

DR. MAITLAND RAMSAY, Glasgow, Scotland, considers Dr. Standish very fortunate in having been able to collect and to study so many cases of purulent ophthalmia in the adult, for in Scotland, although unfortunately ophthalmia neonatorum is always to be found, gonorrheal ophthalmia in the adult is a comparatively rare disease. Dr. Ramsay always taught that in the early stages of purulent conjunctivitis in the adult, when the pain is severe and the chemosis and inflammation are intense, the judicious use of ice locally affords great relief, but that whenever purulent discharge is established, cold is harmful and hot applications are more grateful to the patient. Dr. Standish's statistics, however, prove that corneal complications are more serious in those patients treated by cold than in those where iced applications are not employed, and if that be so, it becomes a matter for serious consideration whether the relief from pain which is brought about by the use of ice is not purchased too dearly if it is to be followed by greater destruction of the cornea.

DR. A. W. CALHOUN, Atlanta, Ga., emphasized the danger of argyrosis from the use of protargol. He has seen a discoloration following the free use of protargol which does not occur with argyrol. Weak solutions of these salts are very beneficial, whether the ulceration is the result of conjunctival infection or not.

DR. FRANK C. TODD, Minneapolis, stated that for the past four years he has been using protargol at the Minneapolis City Hospital and has had about 30 cases in which the protargol, or argyrol, has been employed. He has compared the treatment with protargol by the same nurses that were taking care of other cases being treated with nitrate of silver and found the results very much in favor of the protargol. In any statistics it must be borne in mind that cases vary, and that the treatment the patient receives from the nurse has a great deal to do with the result. Cases treated with silver nitrate showed that in about 30 per cent. of the cases the cornea became involved. In his treatment with protargol there was only one case in which the cornea became involved after the treatment

had been instituted and that was attributed to the too long continued use of cold applications. Cold was usually applied for the first day or so and in this case he neglected to order it discontinued, with the result that the cornea became involved. Regarding the comparative value of the two salts, he did not feel that the statistics would be of sufficient value, as they only cover about 30 cases to date, and so he undertook the experiment of using protargol in one eye and argyrol in the other. The solutions used were 50 per cent. in glycerin with each remedy, and were used the same number of times each day (from one to three applications daily) and the other treatment, which consisted in the use of cold applications for half an hour at a time every two hours during the first day if there was swelling of the lids, and the frequent use of boric acid solution for irrigation, and in certain cases, atropin. In all these cases the eye treated with protargol progressed faster and recovered quicker than the eye that was treated with argyrol. There was so much difference that there can be no mistake, and in some of the cases, when the protargol eye had been cured and the discharge continued from the argyrol eye, protargol was substituted for argyrol with immediate improvement in progress.

DR. JOHN E. WEEKS, New York City, agreed with Dr. Standish in regard to the cleansing of the sac, except, perhaps, that he prefers to wash away the secretion a little more thoroughly. This can be done without any danger by gently opening the lids and permitting the solution to flow in, thus irrigating the conjunctival sacs. The use of specula and lid retractors is harmful. The cleansing should be done very frequently in adults as well as in children. Dr. Weeks uses argyrol in the strength of 35 per cent. The applications are made about every two hours. The growth of the gonococcus ceases when the temperature is from 88 to 86 F. or below, but from 96 to 88 F. the growth is inhibited to some extent. Dr. Weeks has taken the temperature of the conjunctival sac in making cold applications in the ordinary way—that is, with pieces of gauze transferred from the ice to the eye every minute or minute and a half—with the result of reducing the temperature of the conjunctival sac to 92 F., which is low enough to prevent the growth of these organisms to some extent. This is one of the reasons why he advocates the use of cold to an extent, not sufficient, of course, to interfere with the nutrition of the cornea. He employs it for three hours at a time; he allows an interval of an hour and then resumes the applications for another three hours. Cold used in this way will not interfere with the nutrition of the cornea. Another reason is that advanced by Dr. Ramsay, namely, the relief from the intense suffering. The patient is given a high degree of comfort by the use of the ice compresses.

DR. HIRAM WOODS, Baltimore, stated that he had seen a number of cases of ophthalmia which Dr. Standish was treating in the manner described, and was impressed with the thorough cleaning the eyes got from the simple method of removing such secretion as adhered to the margin of the lids, separating the lids, and pouring the heavy protargol solution into the palpebral fissure. Dr. Woods indorsed the opposition to the introduction between the lids, for cleansing purposes, of toothpicks, probes, etc., armed with cotton. He has seen these things abrade the cornea and open a way to infection. Dr. Woods considers that cold promotes comfort, yet, if it retards cure, it should be abandoned. He mentioned 10 cases of purulent ophthalmia in children under 7 years of age recently treated with argyrol. All were of gonorrheal origin. In one case a 25 per cent. solution was used every third hour. In the others a 50 per cent. solution was employed twice a day. All the cases were cleaned with sterile water every hour. No case was lost. The average duration for the 10 cases was eight and a half days.

DR. H. H. SEABROOK, New York City, stated that he is an advocate of the use of cold, and has even used it after the cornea has been involved, and he has seen a cloudy cornea clear up under its use. Dr. Seabrook asked if cold, presumably by its effect on the circulation, will not lower the temperature sufficiently to affect the growth of the gonococci in the lids, how does it become dangerous to the nutrition of the cornea.

DR. J. L. THOMPSON, Indianapolis, said that, until ten years ago, a case of ophthalmia neonatorum was rarely ever lost. Under silver nitrate treatment, Dr. Loring reported a case many years ago where both eyes were lost, and that was considered a most remarkable case. A great majority of cases will be saved by the mildest treatment imaginable. Dr. Thompson treated every case for a while with hydrastin, but he had one very bad case in an infant where a croupous membrane formed, and that case was lost, though subsequently treated with silver nitrate; one case in his whole life.

DR. S. O. RICHEY, Washington, D. C., said that he has tried all these new salts, and is still wedded to the nitrate. The difference in irritation is due largely to the amount of silver contained. He reverted to the use of the nitrate after trying all the other salts. Of course, solutions must be modified according to one's own judgment and experience. The effect on the mucous membrane is that of constructive metamorphosis. The unfortunate cases are mainly due to the fact that cold is used where one should increase nutrition. The tissues must be helped to resist the germs; not given something to impair nutrition.

DR. J. WALTER PARKE, Harrisburg, Pa., mentioned the last four cases he had treated in adults, one of which had a perforated cornea. His plan of treatment was lifting up the lid and, with a large pipette, washing out the eye thoroughly every thirty minutes, with 25 grs. each boric acid and sodium biborate, then dusting in a mild antiseptic powder after the irrigation. This controlled the discharge and at the end of a week it had ceased entirely. It acted better than any of the solutions he has ever used. He still employs the nitrate of silver in varying strengths once daily as an application to the lids.

DR. NELSON M. BLACK, Milwaukee, Wis., said that in several cases where destruction of the cornea had commenced the use of argyrol or protargol in an oily medium has given very good results. The oil lubricates the lids and the already partially destroyed epithelium is not further irritated by their movements. The argyrol, too, is not so easily washed out of the sac, so that the bacterieidal action is continuous. The eye is first washed out, thus removing the secretion and after each washing an application of the argyrol in sterilized cod-liver oil is made.

DR. MARK D. STEVENSON, Akron, Ohio, called the attention of the section to the use of alphozone in solutions of 1:2,000 to 1:500. It is a powerful antiseptic, unirritating, and causing practically no discomfort. In small children and nervous people especially, it is well to wash and irrigate the eye by means of cotton that has been dipped in the solution to be used. By this simple means the eye and adjacent parts can be thoroughly cleansed without any danger of injury. The use of an irrigating apparatus and eye droppers is often harmful by removing some of the corneal epithelium, thus opening up new avenues for infection.

DR. LEARTUS CONNOR, Detroit, Mich., was impressed with the relative value of these new silver salts by a microscopic study of three cases occurring at the same time and under much the same conditions. One case was treated with nitrate of silver, one with protargol and the other with argyrol. In the case treated with argyrol, the gonococci diminished more rapidly than in either of the others. Some years ago, Dr. Connor saw disastrous effects follow the use of cold and since that time he has employed heat, not warmth, habitually. When the eyes are kept clean, without damage to the cornea, they tend to get well without other treatment. He has never seen harm result from the use of silver salts when used judiciously. An eye may be destroyed by the use of large amounts of nitrate of silver as the nitric acid is set free by the decomposition of the salt. The new organic salts, however, do not require so much care, as they are devoid of

destructive acids. The eye should be cleansed every five or ten minutes, day or night, in severe cases. With argyrol there is no discomfort to the patient.

Dr. E. E. Holt, Portland, Maine, considers that it is cleanliness that has the best effect in the treatment of any case. Four years ago he advocated the douche. When the pipette, or irrigator, is used, and cleanliness is not obtained, it is because of the method. He is in the habit of using a Davidson syringe, using the smallest tube, at the outer canthus, and using a quart of water at a time and repeating this as needed every one, two or three hours, day and night. The time between the douchings may be employed in using cold applications and antiseptics. He allows the eye to get dry from wiping it with lint or absorbent cotton and exposure to the air, so that the tissues will not be soaked with moisture all the time.

Dr. Myles Standish, Boston, said that he has never seen a case of argyrosis in acute gonorrheal ophthalmia, either from nitrate of silver, protargol or argyrol. When it has been used in other cases, not acute, he has seen argyrosis with all three remedies. Much handling is dangerous in cleansing the eye. With a particularly careful and well-trained nurse more handling may be permitted, and he considers a properly trained nurse as important in these cases as in any case in medicine. In reply to a question, Dr. Standish said that the cornea derives its nutrition not from direct blood supply, but through the lymph channels, and anything that delays the passage of fluid through these channels must increase the danger to the cornea.

TUMORS OF THE EYE AND ORBIT.*

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There is no more interesting and outré subject[1] in the category of diseases than tumors of the orbit. A large proportion of these are seen and dealt with by the physician and general surgeon, rather than by the special practitioner, as the subject is intimately connected with neoplasms in other portions of the body, and in many cases is but a complication of other serious diseases. It has been deemed well to make a somewhat different classification from that hitherto used by Bull, Buller and other writers who have considered this subject as a whole.

CLASSIFICATION.

To accord with the demands of modern pathology, these tumors should be considered from their place of origin as follows: 1, Intraocular, which in the third stage involve the orbit and which are here but briefly considered; 2, primary in the orbit, to which this paper mostly relates; 3, secondary to neoplasms in the neighboring structures and sinuses; 4, arising from metastasis; 5, pseudoneoplasms.

In accordance with modern pathology, I herewith submit the following as a skeleton on which I propose later to build up a more exhaustive article:

1. Neoplasms may commence in the eyeball and extend to the orbit in the third stage. Of these, lipoma and cyst of the conjunctiva are rare and non-malignant, while glioma and sarcoma are common and very malignant.

2. Primary orbital neoplasms may be properly described under the heading of the tissue in which they arise:

(*a*) Those arising in the mesodermal tissue, of which sarcoma in its various forms is most common. These are round, spindle, fibro, myxo, cysto, cylindro and plexiform. The so-called benign growths are mainly lipoma.

(*b*) Angiomata in its several varieties, including the nevus maternus, telangiectasiæ, cavernous angioma and lymphangioma.

(*c*) Pulsating exophthalmos and orbital aneurism.

(*d*) Tumors proceeding from the orbital walls; osteoma, osteosarcoma and cysts, the latter due to extension.

(*e*) Tumors of the optic nerve and sheaths, which are myxomata, endothelioma, angiosarcoma, sarcoma, primary glioma, tuberculous disease, gummata, metastatic sarcoma.

(*f*) Tumors arising in the lacrimal gland: Hypertrophy, cyst, dacryops, adenoma, myxomata and myxo, spindle, lymphosarcoma and epithelioma, carcinoma, cylindroma, lymphadenoma and chloroma.

(*g*) True cysts, under which we may likewise place extravasations, dermoid and cystoid growths.

3. Extending from the frontal, ethmoidal, maxillary and sphenoidal sinuses, tumors are mostly sarcoma.

Extending from the skin: Fibroma, neuroma, sarcoma, adenoma, gumma, rodent ulcer, carcinoma, epithelioma. Extending from the conjunctiva and cornea are the tumors of the same variety.

4. Metastatic sarcoma and carcinoma. The sarcomata of the orbit sometimes give rise to metastasis in the brain and abdominal organs, but the converse is supposed to occur, especially with carcinoma.

5. Exophthalmos from pseudoneoplasms.

(*a*) Orbital effusions, hemorrhages.

(*b*) Orbital inflammations: Phlegmon and cellulitis, which may be primary or metastatic; inflammatory hypertrophy.

(*c*) Orbital protrusions from inflammation of the neighboring sinuses.

(*d*) Orbital anomalies, encephalocele.

PROGNOSIS.

As regards the treatment and expectation of life in the case of malignant intraocular tumors, the prognosis is favorable in the majority of cases if the eye be enucleated sufficiently early, the growth returning in the orbit in the others, the large majority of which die from the effects of extension of the secondary orbital growth.

In the case of primary tumors of the orbit—those of benign nature, by pressure on the globe and optic nerve, give rise to disturbances of motility, exophthalmos, diminution of vision and blindness, but, as a rule, are carried for many years without danger to life, the deformity being the main complaint. These benign growths should be mainly treated by excision, and in many cases it is not necessary to remove the eyeball.

The diagnosis of primary malignant growths arising

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, John E. Weeks and R. L. Randolph.

1. My original intention, in the preparation of this paper, was to make a collection of photographs and specimens for a pathologic exhibit for the Section. Realizing that no one man's experience would be sufficient to cover all phases of the subject, I corresponded with more than a hundred ophthalmic surgeons of experience, a number of whom have kindly aided me to amass the interesting collection herewith displayed. I was surprised that many, even some of great experience and long years of practice, had little or no experience with this subject. Many others had not secured photographs or saved specimens. The rather extensive collection of photographs and specimens herewith displayed have been obtained through the courtesy of comparatively few of our American ophthalmologists. I do not intend in this paper to make an exhaustive study, but reserve the privilege of putting more time on the work and eventually publishing a brochure, in which I shall attempt to exhaustively treat the subject and to reproduce many of the photographs and specimens herewith presented.

in the orbit is usually made too late to save the life of the patient by any treatment or operation, but we are happy to state that there have been a number of cases of undoubted sarcoma, and even of carcinoma, which have been subjected to thorough exenteration in which the tumor has not recurred and the patient's life preserved to the natural limit. Several cases are known to have been cured by the use of the Röntgen ray, without any operation, and in others, in which the neoplasm was removed, secondary treatment by the *x*-ray seems to have ensured its non-recurrence. The *x*-ray certainly relieves the pain and seems to hinder the development of these growths.

In the rare cases of metastasis into the eyeball or orbit, or where the growth has primarily occurred in the orbit and is accompanied by metastasis into other organs, the removal of the primary focus or secondary growths will not prevent recurrence. Extirpation even seems to increase the rapidity of the reformation.

We are happy to state that within the last few years a number of lives have been saved by early diagnosis, operation and the use of the Röntgen ray, which in previous years would have been classed as inoperable or subjected too late to the formidable operation of exenteration.

DISCUSSION.

DR. CHARLES S. BULL, New York City, stated that his experience has been largely in this variety of orbital tumors, and he has come to hold a very positive opinion on this matter. If the tumor develops within the orbital tissue proper, or is connected with the periosteum of the orbit, or with the sheath of the optic nerve, and on removal can be shown to be encapsulated, the prognosis is almost always a favorable one. If the tumor is not encapsulated, whether it has originated in the tissue of the orbit itself or in the periosteum of the bony walls, or in connection with the sinuses in the vicinity of the orbit, the prognosis is always unfavorable. Each operation for the removal of such a growth can never be a complete operation, hastens its return or recrudescence, and by so much shortens the life of the patient. In these cases of really inoperable tumors the matter should be fully explained to the patient, the reasons for the unfavorable prognosis plainly stated, and the patient should be told frankly that while an operation will give temporary relief from the symptoms, the recurrence of the growth will be hastened and his life will be shortened, and the patient should decide whether the operation shall be done. When the tumor starts elsewhere and involves the orbit secondarily, it should be classified as inoperable, in so far at least as the knife is concerned. These cases may very properly be subjected to the *x*-ray treatment. Dr. Bull has seen three cases within the year in which the application of the *x*-rays produced apparently marvelous results in the disappearance of the tumor and the relief of the painful symptoms. Sufficient time has not yet elapsed to enable him to pronounce the cases cured, but the relief from pain alone would justify a resort to this treatment for these hopeless cases, even if a cure can not be promised.

DR. E. C. ELLETT, Memphis, Tenn., mentioned two cases of tumor of the orbit presenting some peculiar features. The first was one of melanotic sarcoma of the choroid, occurring in a negro child aged 3. The parents noticed "something wrong" with the appearance of the eye in August, 1903, and when Dr. Ellett saw it in February, 1904, the tumor had burst through the cornea. Enucleation was not permitted until March 30, when the growth was found to have invaded the nerve and to have burst through the sclerotic near the posterior pole. Sections showed the nature of the growth and the infiltration of the nerve. Recurrence took place in two months and further operation was not advised. The second case was that of a girl, aged 14, who had just noticed a hard tumor at the inner angle of the right orbit. This was in 1896. The tumor was 12x8 mm. in size, very hard and smooth, and lay just within the internal canthus. There was no pain or tenderness. The only other abnormality was an enlarged middle turbinated body on the right side. In one year the tumor had increased 4 mm. in width and there was epiphora. In two years it was 15 mm. wide by 12 in the vertical diameter. Operation disclosed a bony tumor, which proved to be a cyst, with smooth walls, containing about an ounce of grumous mucus. A probe could be passed backward 1½ inches, down and back 2 inches, and up and down 1 inch. The bony front walls of the cyst were broken in, the wound was closed and in a few days the enlarged middle turbinate was removed, giving an opening into the cyst cavity from below. This remains open, there has been no increase in four years in the tumor, which is much smaller than before the operation, the epiphora ceased entirely, and there is no visible scar. The tumor was evidently a mucocele of the anterior ethmoidal cells.

DR. L. WEBSTER FOX, Philadelphia, said that his experience in *x*-ray treatment of these conditions has been considerable. His attention was first called to the treatment in conditions of epithelioma of the lids. A year and a half ago he had a case of sarcoma of the orbit; the diagnosis was confirmed by several colleagues and by the microscope. The case received 48 applications of the *x*-ray before the disappearance of the growth. There was no recurrence. The treatment has been continued about once in every two or three weeks. Dr. Fox's experience has been that in the so-called inoperable cases it is practically useless to perform any operation. It gives relief for the time, but at the end of a year or more the patient dies of metastatic trouble with the internal organs. He emphasized the fact that the *x*-ray seems to prevent the development of new growths and also relieves pain.

DR. J. F. KLINEDINST, York, Pa., related the history of a case of sarcoma of the orbit in a boy, aged 14, strong and healthy, whose father stated that for two months the right eye had turned upward slightly. There was no impairment of vision, nor ophthalmoscopic changes. On palpating the lower lid a small, round, semi-solid growth could be felt. There was no exophthalmos. Dr. Klinedinst made an incision in the lid, went in below, and found that the growth was encapsulated. The growth was found to have a semi-solid appearance and was removed in sections. Dr. Klinedinst curetted what he supposed to be its attachments. Four or five weeks later the boy returned with the growth larger than it had been before operation. Then Dr. Klinedinst referred the case to a general surgeon, who opened up the orbital cavity and removed the inferior orbital ridge. The growth had extended into the antrum, which was opened, making a thorough operation and removing the floor of the orbit. The growth was examined by a skilled microscopist and found to be a round and spindle-celled sarcoma, probably of orbital origin. The patient made an excellent recovery, and there is no evidence of a recurrence of growth.

DR. J. O. MCREYNOLDS, Dallas, Texas, said that, according to his observations, gliomata of the retina nearly all recur. With regard to melanotic sarcomata of the choroid, as a rule, they do not so frequently occur. In one case the patient died a few years later from metastases in the internal organs. Dr. McReynolds said that in Dr. Würdemann's paper an error was made through oversight on his part in not reporting more accurately the case of the little child. He did operate on the case, but it recurred. It was a primary orbital sarcoma. They are almost certain to recur unless encapsulated. With the epitheliomata and carcinomata, his experience with the *x*-ray has been more satisfactory than in the cases of sarcomata. He has seen marked improvement with its use in a case that was inoperable.

DR. C. F. CLARK, Columbus, Ohio, asked if, with the *x*-ray, any one had succeeded in a case of glioma. He had a case some time ago in which the *x*-ray had no effect whatever, although persisted in. He has had success with it in cases of epithelioma.

DR. H. V. WÜRDEMANN said that benign neoplasms may be removed generally without the loss of the eye, but there is sometimes loss of function, paralysis of the recti muscles, or, as in a case of his, optic neuritis. He believes, in contradistinction to Dr. Bull, that all tumors of the orbit that are supposed to be malignant when small should be operated on, and later subjected to the *x*-ray; benign tumors should be extirpated if they interfere with function. Since the use of the *x*-ray several cases of sarcoma have been cured without operation. Glioma seems to have been favorably affected by the *x*-ray in a case of his; the child is still alive, although an exenteration of the orbit was done last July. It stopped the pain and the child has been free from pain since.

POST-OPERATIVE INFECTION OF THE EYE.*

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The subject of infection of the eye following operations that expose the interior of the globe to the possibility of bacterial invasion, such as cataract extractions, needle operations and iridectomies, is one of doubtful interest in these days of modern antiseptic methods, because such an unfortunate result of an operation is regarded askance, as if it could only have happened through neglect of well-established precautions by the operator.

I suppose this accounts for the fact that it is hardly mentioned by our latter-day text-books, it being taken for granted that if these precautions are taken, it is hardly worth the space or time to discuss a bare possibility, as the space is needed for what is more commonly met with. Moreover, when it does occur it is practically regarded as a hopeless affection, not remediable by any known methods of treatment, and this pessimistic aspect of the subject may also account for its practical neglect.

In order to get some idea of the frequency of post-operative infection I wrote a number of letters to prominent ophthalmologists in different parts of the country, because I was not satisfied to base a paper of this kind on my own individual experience. Their replies would seem to confirm the statement above, that it is a rare trouble in these days, although the frequency of it seems to differ in the experience of different operators. Some of them have had no infection in any operation for years past, although one adds that in his early days of practice its occurrence was too often for his peace of mind. Others have had one-half of 1 per cent. based on a large number of operations, and the highest percentage given by any one gentleman was between 3 and 4 per cent., the general average being between 1 and 2 per cent. Going back to old records of cataract extraction twenty-five years or more ago, I find that the percentage of infections after operations was considerably higher, in some instances as high as 10 to 20 per cent., the difference being due, undoubtedly, to modern antiseptic methods.

The text-books of that time and previous years lay great stress on careful watchfulness for the advent of this complication, and warn us to look for an infected flap in from twelve to twenty-four hours after an operation, although they give different causes for it. Some state that it commences in the iris, some that it comes from conjunctival or lachrymal secretion, while others give constitutional causes for it, but all suggest the same treatment, viz., atropin, hot fomentations and the pressure bandage. Where it was diffuse it was considered hopeless, as it always ended in panophthalmitis. In circumscribed infection of the wound the suggested remedies were supposed to be valuable in arresting its progress.

Over twenty years ago Abadie claimed that post-operative suppuration was always due to infection of the corneal wound by microbes, and was in no way dependent on the patient's condition, nor on the manner of incision, whether with or without a conjunctival flap; that the only way to lessen the frequency of post-operative infection was by thorough antisepsis. From different authors it seems that post-operative trouble may arise from conjunctival, lachrymal or nasal secretions; that the presence of capsule or cortex remnants in the wound, or the exposure of the vitreous from rupture of the hyaloid predisposes to infection; and that people with diabetes, senile marasmus, or septicemia, or with suppurative foci anywhere about the human system, whether ulcers or abscesses about the limbs or body, or aural discharge, were much more liable to infection. Added to this, improper asepsis in the operation, and we would have all possible causes for this serious complication.

In examining the reports of many thousand cataract extractions in the last thirty years, I find a steady decrease of this trouble. For example, in a report of 200 cases in 1877 by one of our best-known ophthalmologists there were twenty-five cases of post-operative infection, of which eighteen had a negative result, 9 per cent. Two years later in 100 extractions there were eight cases of the same trouble with negative results, 8 per cent. Two years later again in another hundred cases we find only two cases, 2 per cent. Still two years later in a hundred cases we find only one case, 1 per cent. Since then this operator and others have recorded a like series with no infection. A report of 1,400 cases between 1868 and 1883 showed about 4 per cent. of post-operative infection, while a series of 1,000 operations between 1891 and 1895 showed less than 1 per cent. of infection.

Taking all the reports I can find since then, running into the thousands, and from correspondence, there has been no improvement over this. No methods have been suggested that exclude entirely this fatal complication, and it seems to remain at about 1 per cent. on the general average. Now, is this steady improvement in barring infection due to the manner of operating or to the method of technic? From the advent of Listerism to the great improvements in what we may call modern operative technic there has been a gradual reduction of suppurative complications in all kinds of surgery; and statistics, unless absolutely valueless, have been given to show the same results in eye surgery.

From Horner's first brilliant results with antisepsis down to to-day, we find by examining thousands of cataract extractions a steady decrease of infection, although even 1 per cent. is too much, considering the uncertainty of the treatment. It is one of those troubles where the old adage that prevention is better than cure certainly applies, because, as far as treatment is concerned, there has practically been no improvement in the last twenty-five years, there being no remedies to-day on which we can place any reliance. It is more than twenty years ago that it was suggested to apply the actual or galvanocautery to the corneal wound as soon as signs of infection

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, John E. Weeks and R. L. Randolph.

presented themselves. In cases of circumscribed infection I must say it has proved its value and in some rare cases of diffuse infiltration it has been claimed that it arrested the process, but I doubt if we have gotten any further in reaching a satisfactory treatment in the last two decades in the attempt to combat this most fatal of post-operative complications.

The experience of those with whom I have corresponded has not lessened this uncertainty. New remedies have been experimented with and new methods of treatment have been tried with uncertain if not barren results. Most ophthalmologists to-day, once infection has set in, regard the case as hopeless; as one of them aptly said, his only remedy was Christian resignation, and I wondered if he had his patients equally well educated in that respect. Cauterization with the actual or galvanocautery, pure carbolic acid, and saturated solutions of nitrate of silver; subconjunctival injections of mercury (the cyanid and bichlorid), injections into the anterior chamber of chlorin water, 25 to 50 per cent. solutions of argyrol, bichlorid 1 to 5,000 and 1 to 1,000, and formalin solutions 1 to 10,000.

In addition to these methods the open treatment of the eye with repeated cleansing with antiseptic washes, bichlorid, boracic acid, formalin and argyrol solutions and with antiseptic salves, such as bichlorid and iodosyl. Powdered iodoform seems to be in favor with some writers. Internally, saline purgatives, iodid of potash, salicylate of soda, quinin and calomel in small doses, and mercurial inunctions cover the whole range of treatment. They dilate extensively on these methods of treatment; none of which, in my opinion, have been demonstrated to be satisfactory. I should think that on account of the nature of this process, which is at first an infiltration of the edge of the wound, usually starting in the corner but at once involving the deep layers of the cornea, causing necrosis, that the most rational treatment would be to reopen the wound, fill the anterior chamber with a 50 per cent. solution of argyrol, apply the galvanocautery to the edge of the wound, trusting to prevent the migration of bacteria into the deeper tissues, and treat the case by the open method (Heinemann) with argyrol, sterile washes or antiseptic salves as may appear best to each operator. Some authors do not hesitate to inject into the anterior chamber a 1 to 1,000 solution of bichlorid, just as they inject it into the conjunctiva in these cases. Pflüger, Abadie, Darier, Deutschmann and quite a number of prominent ophthalmologists claim great things for this method. Some consider this solution too strong, because it would probably damage the endothelial layer of the cornea, but it has good authority and wide experience for its use.

But, all things considered, we must place more dependence on prevention than on any curative treatment, and this brings up the question of the most rational methods of asepsis in ophthalmic surgery.

Since Abadie's insistence on thorough antiseptic preparations for the operation to make it as aseptic as possible, many observers and writers have suggested different methods for getting as sterile a field for operative work on the eye as is claimed for operations elsewhere, by neutralizing, as far as practicable, the effect on the wounded eye of the secretions from the conjunctiva, lachrymal sac and nose. Many have claimed and still claim, that it is impossible to sterilize thoroughly the conjunctival sac (Gayet), and in the face of this impossibility limit themselves to the simplest kind of antisepsis, flushing the eye with sterile water, normal salt solution, solutions of boracic acid, or a weak solution of bichlorid of mercury. Others prepare the patient in advance by some of the suggested methods of sterilising the conjunctiva, doing what can be done to obtain a sterile field without doing harm to the tissues. They flush out the nose and nasopharynx with a solution of permanganate of potash, 1 to 1,000, or any other antiseptic solution, and clean the eyelids and lashes frequently for several days before the operation, in addition to flushing the eyes with boracic acid, or normal salt solution.

If there is any discharge present from the conjunctiva or lachrymal sac, argyrol seems to be in special favor just now in doing away with this. If there is any oozing from the canaliculus, some operators tie the canaliculus with a suture to prevent the secretion from the sac emptying on the conjunctival surface. If there is any mucocele of the sac, and applications fail to get rid of the secretion, the sac is destroyed.

The whole question of the preparation of the patient by antiseptic measures I find depends altogether on the opinion of the different operators as to the possibility of sterilizing the conjunctival sac, and as to the effects of the chemicals used for that purpose. And here, therefore, it might not be amiss to refer briefly to the conditions that confront us.

It is claimed that the conjunctival sac is rarely, if ever, free from bacteria, that being such a good receptacle for everything that floats in the atmosphere it necessarily has the best chance of collecting foreign material. Moreover, it is rubbed by dirty hands and soiled handkerchiefs and so constantly brought into contact with so many things that might carry infection by the majority of people, that it is an easy matter to introduce foreign matter, and if this is of a deleterious nature, it has the best chance for propagation in its folds and crypts.

Moreover, it is the outlet for any pathogenic organisms in the lachrymal sac or duct, and indirectly through these passages from the nose. It would take up too much time to go into all the different species of bacteria that are found in the conjunctiva, but we know that we have many kinds, both harmful and harmless. Among these, according to different authors, is the pneumococcus of Fraenkel, one of the commonest habitants, and by Gifford supposed to be the cause of catarrhal conjunctivitis. Weeks,[1] however, lays this same trouble at the door of a small rod-shaped bacillus to which he has given his name, and his contention is supported by other investigators, particularly Moran and Beach. It is questionable whether this bacillus is found in the normal conjunctiva. Among other harmful bacteria found are the bacillus coli communis, which Randolph has also found in the pus from a case of panophthalmitis, the staphylococcus pyogenes aureus, the staphylococcus pyogenes albus and the micrococcus pyogenes.

We have, then, a great number of harmless bacteria in the conjunctiva which do not produce pathologic changes, but may under certain conditions produce toxins which aggravate pre-existing trouble. We have also harmful bacteria present in the conjunctiva which do not produce any trouble unless the soil is specially ripe for it. In other words, where the vital resistance is normal, no trouble follows their entrance into the conjunctiva, but any lack of vital resistance will result in inflammatory reaction.

1. Dr. Weeks claims that the pneumococcus is found in a healthy conjunctiva, but requires special surroundings to develop any pathogenic conditions, whereas, his bacillus is not found in a healthy conjunctiva and immediately produces trouble as soon as it is lodged in the eye.

And lastly, we have a third species of bacteria, such as Weeks' bacillus, and gonococcus which produce trouble as soon as lodged on the mucous surface.

Of course, the presence of these bacteria requires important consideration when we are about to do surgical work. Their presence may be perfectly harmless until surgical intervention brings about a new condition of affairs, resulting in harm from previously harmless habitants of the conjunctiva. Naturally, if we can remove these possible sources of post-operative trouble from the conjunctiva by any means, mechanical or chemical, we will establish that cleanliness or aseptic condition which all surgeons are constantly striving after.

But can this be done in ophthalmic work? Theoretically the same principles should be applied to eye operations as to any other wound treatment, absolute cleanliness so far as practicable, and if possible, the elimination of the causes of purulent inflammation, viz., pyogenic micro-organisms, irrigation with sterile fluids to remove mechanically bacteria present in the conjunctiva, and the use of an antiseptic application that will destroy germ life without damaging the mucous membrane or lowering the vitality of the tissues.

It is questionable whether we ever succeed in producing strict asepsis, although the presence of pyogenic germs does not always excite suppuration in a wound. The living tissues have a certain resisting power that is frequently stronger than the attacking force, in which case the onslaught fails and we have healing without reaction; if this resistance is lowered sufficiently the attack prevails and we have infection. Hence it is that the conditions existing in different individuals would give different results with the same germicidal agent; it would give a sterile field for operation in some and not in others. Laboratory experiments with the same agent could not represent exactly the action of the chemical on the living tissues, as they are made with the conditions fixed and known, while the conditions of the living tissues can only be imperfectly known and their resistance power, or vital force, absolutely unknown. Even in laboratory experiments observers differ, and therefore give us conflicting reports in regard to the germicides experimented with. Sublimate solutions, 1 to 1,000, 1 to 2,000 and 1 to 3,000, have apparently produced different effects on pus cocci according to different writers, due probably to a difference in the technic of the methods employed, or to the failure to preserve the same temperature.

In ophthalmic practice the strength of the sublimate solution generally employed for irrigating and cleansing the eye is about 1 to 5,000. This is supposed by most writers to kill pus cocci in about three minutes. Some use it stronger, some weaker. Some have discarded bichlorid solutions altogether and use only sterile water, because, they claim, that a solution strong enough to kill pyogenic organisms in the conjunctiva will cause too much irritation of the eye and lower its normal resistance, and that a sterile solution of any kind will answer to cleanse the conjunctiva mechanically, as that is all that can be accomplished.

Now, we all know the difficulty of disinfecting the skin. But we also know that the skin can be disinfected by antiseptic dressings kept in contact long enough to accomplish the result. Why can not the conjunctiva be rendered sterile by the same means? For some years past I have been experimenting along this line. As aqueous solutions could not be kept in contact with the conjunctiva I resorted to vaselin as the menstruum instead of water, and bichlorid as the chemical. I made an ointment of 1 grain of bichlorid of mercury, 5 grains of chlorid of sodium and 6 ounces of vaselin. The salt is added to prevent albuminoid deposit. The vaselin is boiled. The bichlorid and salt are dissolved in a few minims of water and added to the boiling vaselin. After boiling, the bichlorid vaselin, 1 to 3,000, is put away in jars until used. I find it a good menstruum for atropia, eserin, cocain and other medicaments used in eye affections instead of dissolving them in water. In all cases of discharge from the eye, mucus, mucopurulent or purulent, I find it valuable as a dressing, the conjunctival sac being filled with it as often as needed.

In cataract operations I prepare my patient as follows: The night before a bath and a purgative are given, eyebrow, lids and lashes are cleansed thoroughly by soap and water, followed by a bichlorid solution, 1 to 1,000 and alcohol, the conjunctival sac is thoroughly irrigated with a bichlorid solution, 1 to 10,000, and filled with the bichlorid vaselin. A sterile pad and bandages are then applied to the eye, and it is not opened again until the patient is put on the operating table. The bandage is then removed and the sac irrigated anew with a weak bichlorid solution, 1 to 10,000. The sac, being kept filled with this sterile preparation for twenty-four hours after thorough irrigation, is much more likely to become sterile and remain so than if merely washed out. No organisms can live in this medium, as bacteriologic investigations have proven. The only defect in the technic is that the sterilizing medium is not applied often enough. The eye does not retain a particle or sign of the vaselin in even a few hours after, except that the lid is somewhat greasy. But if the contact for a few hours succeeds in destroying or preventing the development of germ life, there is no chance of infection from without while the eye is kept sealed, although there is always danger of infection from within, if there is any pathologic condition with purulent secretion, or any affection of the lachrymal sac, or a purulent rhinitis.

This method of sterilizing the conjunctiva is on the same principle as the disinfecting of the skin. Laboratory experiments with this same preparation on the skin have proven its efficiency. All germs are destroyed by it in a short time, even the germ of anthrax.

Over 500 cataract extractions have been made at the Eye Infirmary with this method, with but one case of infection of the wound, and that limited to one corner. This occurred on the fifth or sixth day and was due probably to outside infection caused by the patient's carelessness. I mention this apparent clinical demonstration of its value for your consideration. You can decide its value. I would say here that the eye is dressed with the same preparation each time the bandage is removed after operation.

I have never seen any marked or annoying irritation from this application, except once or twice, in hundreds of cases, possibly running into the thousands, and because of this fact I have never been able to understand how others get so much irritation from the use of the bichlorid. I believe that the bichlorid in the salve is absorbed just as the atropia or eserin or cocain is, and that it thereby helps to render the corneal tissue to a certain extent immune against infection. This is a speculation, of course, but why should not the bichlorid be absorbed as readily as the other remedies whose effects prove that they have passed through the cornea?

Dr. Stuart MacLean, professor of bacteriology at the University College of Medicine, examined twelve cases

of cataract before and after the use of this application. These cases were in the hospital. In all twelve, except one, he found bacteria in the sac before the patient was prepared for operation, twenty-four hours after the use of the vaselin, when the eye was opened on the operating table, the cultures taken from the eyes showed no growth in the tubes except in one case where a slight growth developed on the fifth day. The tubes were kept in the incubator from three and one-half to five days.

In eighteen of the cases taken at random from the clinic out-patients to see the effect of the ointment, bacteria were invariably found prior to the application, and only four of them showed growth from the cultures taken twenty-four hours after the application. Three of these four cases were dirty negroes of the lowest type, two of them with phlyctenular keratitis, and one with chronic glaucoma and inflamed conjunctiva with constant secretion. All these showed staphylococcus pyogenes, whether aureus or albus was uncertain by the microscope, as no plate cultures were made.

The other one was a case of capsulotomy in which the cultures showed a number of micro-organisms (possibly saprophytes), which Dr. Hoen, the bacteriologist of the Pasteur Institute of Richmond, said could not be morphologically classified. He reported that the chief organisms found were a very thick, jointed bacillus, varying in length, and as many as five or six in a string (possibly the bacillus mesentericus vulgatus, or the bacillus hirsutus); another very slender bacillus, somewhat resembling the tubercle bacillus; a third, short, thick and nearly oval in shape (possibly the pneumonia bacillus), and the fourth a long, slender, thread-like organism resembling the leptothrix buccalis, which has been found in the lachrymal passages. Clinically the case did well and had no trouble. In this case the presence of the micro-organisms was probably due to a defect in the technic.

The following cases showed no growth after the use of the ointment: Three of phlyctenular keratitis, two of catarrhal conjunctivitis, three of superficial corneal ulcer, one wound of the eye with prolapsed vitreous, one iritis, one capsulotomy, and two of foreign body on the cornea.

In the twelve hospital cases only one showed a growth, but the conjunctiva in all of them was in a normal condition, there being no pathologic alteration in the eye apart from the cataract; whereas in the outdoor cases nearly all had some trouble of the conjunctiva either primarily, as in phlyctenular keratitis and catarrhal conjunctivitis, or secondarily as in corneal ulcer, iritis, wounds and so on. Notwithstanding only four in the seventeen showed a growth in the culture taken twenty-four hours after the application, and these the very worst of the whole number.

While I do not consider the number sufficient to draw any definite conclusions, they certainly help to support very strongly the clinical results given above as to the efficiency of the application in sterilizing the conjunctiva. I think, therefore, that this method is worth a trial in our effort to get an aseptic condition in ophthalmic surgery.

DISCUSSION.

DR. S. D. RISLEY, Philadelphia, said that one never feels sure that the most faultless diagnosis is going to result successfully because of the danger from this lack of sterilization of the operative field. He thought it reasonable that the bichlorid of mercury, or any other agent of that kind, placed in the sac in an unctuous medium would have a longer opportunity for effect than when used in solution. He is convinced that the free use of bichlorid of mercury immediately preceding the operation and then followed with a solution of cocain disturbs the integrity of the epithelium of the cornea and often does harm. For some time he has been avoiding the use of these methods just preceding the operation, and has been using only boracic acid, or sterile salt solution, or water, in preference to bichlorid of mercury. He is always careful to mechanically sterilize the edges of the lids and the openings of the meibomian glands by scrubbing them with a pledget of cotton dipped in boracic acid solution, or salt solution. In suspicious cases, where there has been some disease of the lachrymal sac or nasal passages, he treats the sac or passages with an antiseptic solution, dilating the punctum and washing out the sac with the aid of the lachrymal syringe, and immediately after the operation dusts the inner canthus with iodoform. In cases where, notwithstanding the precautions taken before operation, we find the lids swollen at the first dressing, with possibly a gray membrane formed, he scrubs them with a pledget of cotton dipped in boracic acid solution, or perhaps even with bichlorid, and then applies a weak solution of nitrate of silver (2 to 5 gr. to the ounce) to the edges and every portion of the wound. He has not used any of the modern silver salts on the conjunctiva in these cases. He has injected a weak solution of nitrate of silver into the sac, allowing it to remain there a moment and then washing it out again with salt solution. Only rarely in the last fifteen or twenty years has he had any serious infection of the wound after operation. He believes that infectious processes result often unexpectedly. The operation is attended by many persons, of the condition of whose respiratory passages nothing is known; they cough and spread into the atmosphere around the patient various organisms and these doubtless often settle on the instruments or on the conjunctiva of the patient.

DR. HERMAN KNAPP, New York City, stated with regard to infection following cataract operation, that not everything is infection that looks so. One such condition is that of the exudation sometimes seen in the anterior chamber after extraction. It is seen in syphilitic subjects and in cases of traumatism especially. It differs from a real infection in that the edge of the lid is not swollen. The conjunctiva is swollen and there is this exudate in the anterior chamber, which fills it more or less and which fills often not only the anterior chamber but the vitreous as well. He has seen it occur in cases with gonorrhea. Recently he saw such a case; it looks exactly like ophthalmia, except that the lids are not swollen. The conjunctiva was swollen and the whole anterior chamber filled with a yellowish-white exudate. He sent the patient into the hospital for treatment. This spongy exudate is sometimes described as gelatinous. It coagulates in the lower part, and in the upper part of the chamber is an area which is perfectly clear. From day to day the exudate grows less and disappears entirely, leaving no trace. It is the same in the vitreous chamber. Actual infection probably comes from the lachrymal sac and to be safe the sac should be extirpated, which can be readily done.

DR. F. C. ABD, Plainfield, N. J., said that he has had two cases this year of the spongy iritis referred to by Dr. Knapp. The first case followed a cataract extraction by the combined method. After the exudation in the anterior chamber was absorbed he found the vitreous filled with floating opacities, and the best vision he could get with a suitable correction was 20/200. The second case was one of injury in the ciliary region caused by a tack. The condition looked very serious, as all these cases do, but in a few days the nature of the case was apparent, and a diagnosis of spongy iritis made. When the spongy material in the anterior chamber was absorbed he found the vitreous filled with a yellowish exudate, and the patient is to-day blind in that eye. His experience in these cases has led him to give a much more guarded prognosis than is given by Dr. Knapp in his article on this subject in Norris and Oliver's System of Diseases of the Eye.

DR. J. A. LIPPINCOTT, Pittsburg, Pa., said that he has used the method described in the paper in every case of cataract extraction since Dr. White suggested it to him several years ago, and he is satisfied of its efficacy. Spraying the nostrils with a

solution of permanganate of potassium is useful, and he still practices that procedure, but it is not absolutely preventive. In his opinion the prophylactic power of the bichlorid ointment is due to its remaining in the lachrymal canals, partially plugging them, and thus presenting a mechanical as well as chemical barrier to the entrance of germs from the nasal passages.

DR. E. E. HOLT, Portland, Maine, stated that he has had one suppuration in 200 cases. He is still, however, very much in favor of the method and uses it in every case.

DR. C. R. HOLMES, Cincinnati, said that it was his misfortune, early in his career, to lose a case from an infected tear sac, and that led to his following the method of extirpating the sac and gland. He would refuse to operate where there is a purulent inflammation in the tear sac unless he could extirpate the sac. He has performed this operation in a patient over 80 years old with perfect success. He long ago abandoned the idea of trying to clean the mucous membrane that has not shown any inflammation prior to the operation, as he thinks that this only sets up an irritation that gives a good chance for infection. He does not use anything at all except sterile water, or a saturated solution of boracic acid.

DR. V. T. CHURCHMAN, Charleston, W. Va., said that since Dr. White spoke to him several years ago about this method of preparing sterilized sublimated vaselin, he has used it in every case on which he has operated since. He had infection in only one case and that subsided promptly on following up the treatment.

DR. J. L. BORSCH, Philadelphia, said that one point not brought out is the cleansing and sterilization of the lashes prior to operation. He does not believe it is the proper thing to use very strong solutions in sterilizing the conjunctival sac; they seem to make infection more probable. De Wecker simply cleanses and sterilizes the lids and lashes with cyanid of mercury, 1 to 100, then flushes the conjunctival sac with a boracic acid solution and follows this with a douche of sterile distilled water. Dr. Borsch follows this method and finds it entirely satisfactory.

DR. F. P. LEWIS, Buffalo, N. Y., said that he has had in two cases a suspicion of infection, one from the sac and the other from without. He has wondered, in view of the success of the Credé method, that the silver salts have not been more used in these cases. With that idea in mind some years ago he made it a routine practice, in attempting to thoroughly cleanse the eye, to use a solution of 2 or 3 per cent. protargol in the eye just prior to operation. It is non-irritating and Credé's experiments have shown that there is certainly a lessened probability of infection in gonorrheal ophthalmia. It would seem reasonable, therefore, to suppose that like protective results might be expected in operative cases. Since using it he has had no infections.

DR. J. A. WHITE said that the actual treatment of the infection itself and how to get rid of it is just as much in the dark as it was before. Each one has his own methods for the prevention of infection. He thinks that in his case the infection came from within, perhaps because he did not investigate the condition of the nose properly before operation. He included cleansing the lashes in the prior cleansing of the eyelids as given in the paper, viz., scrub with 1 to 1,000 bichlorid, and then wash with alcohol before applying the ointment to the eye and lids.

Honest Experts Wanted.—Dr. S. Solis-Cohen read a very interesting paper at the pharmaceutical meeting in the Philadelphia College of Pharmacy, November 15, on "The True Scope of Scientific or So-Called Expert Testimony in Trials Involving Pharmacological Questions." He said that the expert should distort, magnify or minimize nothing, assert as positive nothing doubtful, throw doubt on nothing certain, and say nothing he would not defend before a learned society. He further said the expert's efforts should be bent to elucidate truth and not to score points for either side. The court should restrict examination to matters having actual bearing on the case at trial; but the testimony of the expert should be given only with reference to scientific accuracy, and not with reference to its effect on the verdict.

SEPTIC THROMBOSIS OF THE CAVERNOUS SINUSES.

WITH A REPORT OF THREE CASES.*

E. C. ELLETT, M.D.

MEMPHIS, TENN.

CASE 1.—J. W., white, male, age 15, of good family history and previously healthy; was taken sick Aug. 2, 1898, with pain in and around the right eye. This pain was severe, but I was not able to ascertain if it was accompanied by other local symptoms, or if there was fever. The pain was relieved by acetanilid, but returned next day, and there was then swelling over the brow and fever.

Examination.—These symptoms persisted, and he was brought to Memphis on the fifth day of his illness and was placed in the care of a general practitioner. There was a fluctuating swelling over the frontal region, extending up to the hair and down to the root of the nose. This was incised at its upper border and pus escaped. On the next day an incision was made above the root of the nose for better drainage. On the ninth day of his illness I was asked to see him on account of an involvement of the eyes, especially the left. I found the two openings as described, discharging pus from a common cavity. The eyelids were swollen till the eyes could not be voluntarily opened. A fluctuating swelling was seen at the upper and inner corner of the right orbit, and the left eye showed exophthalmos, with fixation of the ball, edema of the conjunctiva and ulceration of the cornea at its lower margin. The pupils were normal. The skin was of a pale yellow, temperature 103 to 104 degrees, and a small abscess was found over the left parietal region. The pulse was rapid, mind clear. In other words, there was general septic infection, apparently having its origin in the right frontal sinus.

Operation.—Under general anesthesia the abscesses were freely opened, the left frontal sinus opened and found full of pus, the lining thickened, and an opening in the septum between it and the right sinus. The sinuses were cleaned out, thrown into one, and opened freely into the left nostril. Pus was present in the right orbit, none in the left. The operation was done at 11 a. m. and the collections of pus being liberated and provision made for drainage, a hopeful view was taken of the case. We did not recognize the fact that we had to deal with anything more than the accessible foci of suppuration. At 2 p. m. the temperature was 105 degrees, and briefly, all the symptoms grew worse. A general surgeon was called in consultation and could suggest nothing further than repeated exploration of the left orbit for pus, which was never found. Stupor developed and on the fourteenth day of his illness a right hemiplegia appeared. The patient was then comatose, and without further change in the local symptoms except a spread of the corneal ulceration in the left eye, he died on the fifteenth day of his illness. No autopsy was performed.

CASE 2.—N. G., white, male, aged 27, was seen in consultation with Dr. W. T. Michie, through whose kindness I am permitted to report the case, on June 20, 1903. Six days previously he had consulted Dr. Michie for a phlegmonous inflammation of the right ala nasi of two days' duration. It had started as the common furuncle in this situation usually does, but was, when seen by Dr. Michie, so severe and so painful that a general anesthetic was given and a free incision made. On the following day the nose was red and swollen to the root, and both eyelids somewhat swollen. On the next day the symptoms were all worse, with elevation of temperature, swelling of the right eyelids, nose, forehead and right side of the face and neck. In the mouth a right peritonsillar swelling was seen. All the swellings were edematous rather than inflammatory.

Examination.—When I saw him on the eighth day of his illness there was a swelling and redness of the nose and right lid, and slight swelling at the inner angle of the left orbit.

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, John E. Weeks and R. L. Randolph.

The peritonsillar swelling persisted, as did the edema of the right side of the face and neck. There was right exophthalmos, the orbit being tense, and conjunctiva edematous (right), but the ball itself was normal, the pupil reacting and motion being unimpaired. Temperature 102.5. He had had several chills. I gave my opinion that a septic thrombus existed in the right cavernous sinus, just beginning to involve the left one, and that the patient would die. I saw him again on the eleventh day of his illness. He was then unconscious, but could be roused to answer questions. Incisions into the peritonsillar swelling had evacuated a quantity of dark blood, but no pus. The temperature was running from 100 to 102.5 degrees, the pulse was rapid and weak, respiration 50. He was restless, tossing from side to side and pulling at the bedclothes. No signs of consolidation in the lungs could be made out, though there must have been one or more metastatic abscesses. There was double exophthalmos. On the right side the conjunctiva was hemorrhagic, slight dilatation of the pupil, and divergent squint (oculomotor paralysis). The left eye was normal except for edema of the lids and conjunctiva, and a black, dry slough in the center of the upper lid the size of a dime. A similar large area was seen on the bridge of the nose and a large oval bluish spot on the forehead. The edema of the right side of the face and neck was worse. The patient died at 7 o'clock that evening. No autopsy.

CASE 3.—G. W., white, male, aged 27, consulted my associate, Dr. Farrington, on Oct. 2, 1903, with a small pustule at the end of the right nostril. This was gently ruptured, swabbed with bichlorid of mercury and a wash of the same solution given for use at home. The next day the parts were still inflamed and the process was repeated. On the 4th he was seen by his family physician, Dr. Malone, who was at the house to see our patient's child. The nose was still red, swollen and painful, and learning what had been done, Dr. Malone did not give any active treatment, but on the following day, October 5, the symptoms not abating, Dr. Malone made a free incision of the inflamed area under local anesthesia. There was no evidence at this time of any extension beyond the nose, but on the 6th the morning temperature was 102 degrees and the lid of the right eye was swollen. That evening the temperature was 104 degrees and the pain was intense. On the morning of the 7th Dr. Farrington saw him with Dr. Malone and made the diagnosis of septic thrombosis of the right cavernous sinus.

Examination.—The patient was removed to our infirmary, where I saw him at 2 p. m. on this, the fifth day of his illness. The nose was red and swollen, and there were several small superficial pustules at the end. The lid of the right eye and the skin of the forehead were edematous, a phlebitis of the supraorbital veins could easily be made out, the conjunctiva of the right eye was chemotic and swollen and the ball fixed, pupil slightly dilated and vision obscured as by a white mist before the eye. The lids of the left eye were slightly swollen at the inner corner. Temperature 104 degrees, pulse 112, mind clear.

Operation.—Under chloroform the nose was freely incised and some pus escaped. The right orbit was incised, but no pus was found. Six drams of antistreptococcic serum was administered, but had no effect and was not repeated. The treatment was symptomatic, and no material change could be suggested by any of several consultants, among them Dr. A. J. Ochsner of Chicago, who was in the city attending a meeting of the Mississippi Valley Medical Association. On the sixth day the conjunctiva of the left eye became edematous, the temperature remaining high and the pulse rapid. That night the patient began to sink rapidly and became delirious, and next morning (seventh day) was weaker, with temperature 105 degrees, cold extremities and active delirium. The right eye was divergent with dilated pupil. Death at noon of the seventh day. No autopsy.

It is a question whether this is the proper place to report cases of this condition, but I do so because these cases were seen by me on account of apparent eye symptoms. Moreover, the disease is rare, and as this rather large number of cases have fallen under my notice, I venture to relate them for the purpose of calling attention to the condition.

The literature on this subject is not abundant by any means. Dwight and Germain[1] append an extensive bibliography to their report of 4 cases, and were able to find 178 cases, with their 4, making 182. I would refer those interested in the literature to this article. The importance of the condition lies in its great mortality, only 14 of these 182 cases recovering. In septic cases the prognosis is always bad. Since this collection of cases others have been reported by Day,[2] Lodge[3] and Finlay.[4]

Day's patient was a child of 11, suffering with chronic purulent otitis media and mastoiditis, both of the right side. Five days after operation the right eye was swollen, and thirteen days later the left eye was similarly involved. Fluctuations in the temperature seemed to be due to retention of pus in the mastoid wound, and though both cornea ulcerated the child recovered, leaving the hospital at the end of four and one-half months. Largely on account of recovery, Day thinks the thrombi in the cavernous sinuses must have been non-infective and ultimately absorbed. Its association with mastoid disease he regards as a coincidence. The lateral sinus was not involved, though cases have been observed where the infectious process spread from this sinus to the cavernous by way of the superior petrosal.

Lodge's case was a married woman, aged 41. The trouble originated in the left peritonsillar region, spreading to the cavernous sinus of the left side by way of the pterygoid plexus. Pus was found on incision back of the last molar tooth, and later a purulent discharge came from the left nostril. The antrum of Highmore was healthy. Autopsy verified the diagnosis, there being septic thrombi in both cavernous sinuses and pus distributed pretty well over the base. The sphenoidal sinus was full of pus, other accessory sinuses healthy. He thinks there was a primary marasmic thrombus of the pterygoid plexus which became infected from the mouth.

In Finlay's case all the symptoms pointed to mastoid and lateral sinus disease, complicating acute otitis media. On the operating table a swelling under the left superior orbital margin led the operator to diagnose a complicating thrombosis of the cavernous sinus. The lateral sinus was found healthy and the mastoid practically so. Autopsy showed a purulent clot of the cavernous and circular sinuses, extending to the left ophthalmic vein, and pus in the sphenoidal and posterior ethmoidal cells. No symptoms of nasal disease had ever been complained of. Finlay remarks that "one can scarcely seriously contemplate reaching the local lesion through the orbit or by means of a craniectomy."

By far the most lucid and satisfactory exposition of the subject that I have seen is in McEwen's "Pyogenic Diseases of the Brain and Spinal Cord," and what can be said on the subject in general is excellently said by him.

The cause of this condition, i. e., septic thrombosis of the cavernous sinus, is any infected lesion in the area drained by the ophthalmic vein or its branches. Pustules on the face, nostrils, eyelids, etc., purulent affections of the accessory sinuses, nasal, pharyngeal or

1. Boston Med. and Surg. Jour., May 1, 1902.
2. Annals of Otology, vol. xi, p. 526.
3. Annals of Otology, vol. xii, p. 449.
4. Archives of Otology, vol. xxxii, p. 419.

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buccal cavities, facial erysipelas, infected wounds of this region, etc., may be the cause. Here we encounter the first important point, which is the necessity of care and cleanliness in dealing with pustules or other infected lesions of the face. Two of my three cases resulted from lesions which the rhinologist sees almost daily and which most of us have personally experienced.

The symptoms naturally divide themselves into (1) the local and (2) the general. The general symptoms are those of sepsis under any and all circumstances. The local symptoms may, following McEwen's scheme, be divided into (*a*) those due to venous obstruction, and (*b*) those due to pressure on the nerves. Venous obstruction causes edema and chemosis of the affected area, viz., the orbit, the skin of the nose, forehead, cheek and sometimes fauces, pharynx and neck. We have seen in Case 2 that necrosis of the skin may ultimately result. The exophthalmos, which is a prominent symptom, is due to engorgement of the tissues of the orbit.

Pressure on the nerves causes characteristic symptoms. The nerves involved are the second, third, fourth, sixth and the ophthalmic division of the fifth. The visual disturbances are usually very marked, due to pressure on the optic nerve and edema of the retina, while the motor disturbances are most pronounced in the parts supplied by the third. We have seen the dilated pupil, divergent squint and ptosis in the cases reported. The ophthalmoscope shows dilated and tortuous retinal veins and edema of the retina. The disturbances due to pressure on the fifth are variable.

A very important and characteristic symptom arises from the fact that while the trouble is unilateral at first, the thrombus soon spreads to the other sinus, and obstruction and other symptoms appear in the areas drained by it. The edema of the lids of the second eye, beginning at the inner canthus, and not due to direct extension, the parts at the root of the nose lying between the eyes being normal, is very characteristic.

The diagnosis must be made from tenonitis, orbital cellulitis and facial erysipelas. If attention is once drawn to the condition under consideration the diagnosis is not difficult, and it is for the purpose of calling your attention to it that I have presented this report.

The prognosis in septic cases is, I believe, uniformly bad. In one of the series reported by Dwight and Germain, operation was performed and they think the results are promising. Hartley demonstrated its feasibility in Knapp's well-known case, but the question is probably one for the general surgeon, and no general surgeon who saw any of these cases entertained the idea of operative treatment. Since the prognosis otherwise is absolutely bad, it seems to me proper that operation should be tried. Other than this the treatment is supporting and symptomatic.

Dwight and Germain stand alone in their advocacy of operation, but it is to be hoped that their encouraging results will lead others to give the matter a trial. There is nothing to lose.

DISCUSSION.

Dr. S. D. Risley, Philadelphia—I have often been surprised that thrombosis of the cavernous sinus does not occur more frequently. I have a suspicion that it occasionally occurs without being recognized. For many years there has been a recognition of the fact that abscesses about the face were dangerous, probably without recognizing the probability of thrombus of the sinus. A few years ago I saw an aged man who had an abscess of the lachrymal sac on one side. A homeopathic surgeon operated on it. Just what he did I do not know, but in forty-eight hours the patient died with symptoms of thrombosis of the cavernous sinus. I have seen one case of thrombosis. A small abscess occurred at the superior aspect of the malar bone, becoming evident on a Thursday; on Friday there was severe headache, which increased in severity, and on Saturday there was an edema of the left eyelid, with slight proptosis. On Sunday morning there was edema of both lids, the exophthalmos rapidly increased on both sides and the pain became violent and was rendered worse by cold or hot compresses. In this case 200 Swedish leeches declined to draw blood and artificial leeches had to be used. The abscess proved to be of streptococcic infection. Ether was administered and exploration of the orbit was made, but no pus was found there. On Sunday afternoon, the pain being violent, a hypodermic of morphia was given and the patient was immediately relieved from pain and passed into sleep which ended in profound coma that lasted until death the following Wednesday, five days after the onset of the small abscess on the malar bone. This was situated within the area drained by the cavernous sinus. These cases suggest the importance of consideration of this subject. When we have an infectious process the area of which drains into the cavernous sinus we should be on our guard for thrombosis of the sinus.

Dr. L. A. Pilsontaine, Springfield, Mass.—About six weeks ago I was called to see a young man who three weeks previously suffered from a febrile disease, which was thought at the time to be pneumonia. A week before he had severe pain in the back of the head, in the right thigh and in the right ear. The pain continued and a discharge from the ear began at the end of forty-two hours. Seventy-two hours later I was sent for. He then had a purulent mastoiditis, with a temperature of 103, pulse 120, and some delirium, and more severe general illness than would be accounted for the mastoiditis alone. I operated on the right mastoid and exposed the sinus, which was normal. Five days later there was swelling of both lids and some exophthalmos. Two days later I found him delirious, with temperature 104, pulse 90, and marked bilateral exophthalmos; I made the diagnosis of double cavernous sinus thrombosis. Death followed in two days. No postmortem.

Dr. H. S. Miles, Bridgeport, Conn.—I would add one case, which began in a small abscess in the right nostril. It was opened, the pus examined and found to be of staphylococcus origin. The patient became worse, and on the fourth day was unconscious; the lids were swollen and there was some exophthalmos. No pus was found in the orbit. On the fifth day the patient died.

Dr. E. C. Elliott—My only object in presenting this paper is that these cases are apt to be seen by the ophthalmologist, and should be borne in mind. The diagnosis is easy if attention has been called to the trouble.

PRESBYOPIA.

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CHICAGO.

Not long ago a number of medical men were gathered after luncheon at one of the down-town clubs. They were all about the same age—somewhere between 45 and 50—and were amusing themselves by gently twitting one of the number who was wearing his first glasses for presbyopia. This twitting led to a discussion, brought about by my defense of the wisdom manifested by the victim in wearing glasses for reading. A test was made *in situ* with small print, which revealed that every man present was presbyopic. This was not surprising, but the interesting feature to me was, first the aversion they all had to admit the presence of presbyopia, and then the reasons advanced for not using glasses for its correction. No one, of course, wishes to admit a failure of the faculties. That a perfectly normal change, brought about by a maturing

process in the eye, that is slowly but constantly working in everyone—showing its effects in some individuals at 20—and producing a defect so easy to remedy, should not be remedied is certainly a prejudice as curious as it is widespread. Further, if the necessity to use glasses for reading were necessarily the stamp of old age, we might hesitate to accept this symbol of our infirmities, but the emmetropic, the normal eye, reaches this condition at from 40 to 45, hardly a time of life for a healthy man to number his infirmities. When properly examined, the whole matter presents such a different aspect from that of the infirmities of age that I have thought that a brief résumé of the subject would not be without interest to the practitioner.

An apology is here entered for presuming to take the time of the busy reader with an article elementary in its nature, and in which nothing new is set forth. But it is universally admitted that even the elements of ophthalmology bear so distinctly the stamp of specialty that little attention is paid to them by those who do not expect to treat diseases of the eye, and a teacher's experience in post-graduate work has clearly demonstrated to me that the subject of accommodation is one of those simple things that are frequently taken for granted without distinctly understanding the mechanism thereof.

The process by which the eye adjusts itself to see distinctly objects within its range of vision is called accommodation, and the factors that participate in this act are mainly the ciliary muscle and the lens. The former by contraction, when an object approaches the eye, allows the lens by virtue of its elasticity to assume a more convex form, especially the anterior surface, thereby adding to itself the equivalent of an extra lens, or lens power, thus throwing on the immovable retina a clear-cut image. The distance from the farthest to the nearest point at which an object can be distinctly seen is called the region of accommodation; and the power that enables the eye to adjust itself to objects within this region is called amplitude, or range of accommodation.

Unlike the rest of our faculties, which gradually develop from childhood to maturity, the power of accommodation begins to decrease from our tenth year, and gradually diminishes until at the age of 75 it is abolished. The result of this diminution of power is that the near-point gradually recedes from the eye. At about 40 it reaches a point where objects are distinctly seen by the normal (emmetropic) eye at a distance of 22 centimeters, 9 inches, only by bringing into action the full remaining power of accommodation. The amount of accommodation that an emmetrope requires to see distinctly at this distance is equal to a lens of 4.50 dioptries, hence we say that the accommodation is equal to 4.50 dioptries. At this arbitrary point Professor Donders places the beginning of presbyopia.

The word "presbyopia," from the πρεσβύς, old, and ὤψ, the eye, is in reality a misnomer. It has been handed down from antiquity when the process of accommodation was unknown, and was based on the fact that the sight for near objects usually fails in old age, and glasses were needed for work. When Donders satisfactorily explained the process of accommodation the word lost its real meaning, for he demonstrated that one individual may become presbyopic at 30, while another may reach the mature age of 80, and not be at all presbyopic. For lack of a better, he retained the word, and unfortunately to it the old association of age infirmity still clings.

The following table, giving the power of accommodation from the age of 10 to 75 is quoted by Landolt from Donders' classical work and rendered into the metric system. I have added the approximate distance in centimeters for the near-point:

Age.	Amplitude of Accommodation.	Near point in centimeters.
10	14.00	7.00
15	12.00	8.00
20	10.00	10.00
25	8.50	11.50
30	7.00	14.00
35	5.50	18.00
40	4.50	22.00
45	3.50	28.50
50	2.50	40.00
55	1.75	56.00
60	1.00	100.00
65	0.75	133.00
70	0.25	400.00
75	0.00	.....

This remarkable and rapid diminution in the accommodation power is due to the rapid loss of elasticity of the lens substance which prevents it from assuming a sufficiently convex form.

In connection with the range of accommodation there is another fact to be considered. Repeated experiments have proved that the smallest angle under which objects are perceived by the retina is one of five minutes. On this basis Professor Snellen made a series of test types, each letter of which at a given distance subtends an angle of five minutes. No. 1, at 12 inches, subtends therefore the same angle as No. 20 at 20 feet, etc. It of course follows that when the eye can no longer focus at 12 inches the inclination is to remove the object farther from the eye, in which case the angle becomes less than five minutes, consequently it can no longer be seen distinctly. The following paragraph printed in diamond type should be read distinctly at 12 inches. A young emmetropic can read it at 8 inches.

The Gallic tribes fell off and sued for peace.

So far the word presbyopia and the popular interpretation of it exactly agree. An individual with normal vision becomes presbyopic at 40 or 45. But the application here ceases. The accommodation power decreases in eyes of all forms by exactly the same amount. Consequently in ametropia the near-point must be differently affected. A couple of examples will make this clear.

A hypermetrope of 4 dioptries, in order to see distinctly objects at a distance, is obliged to use 4 D of accommodation. At 30 years of age he has, according to Donders, 7 D. of accommodation power. Of these 4 D. are used to correct the hypermetropia. Consequently, he has but 3 D. remaining, his near-point is at 33 D.; hence he is presbyopic at 30.

Let us take another case. A myope of 5 D. has his far-point at 20 centimeters (8 inches) from the eye. At 40 this accommodative power is only 4.50 D., but he needs none of it, because his far-point is at 20 centimeters (8 inches), and there is no presbyopia. If his myopia is over 7 D., he will never be presbyopic.

It is, of course, evident from the preceding remarks and examples, that while the range of accommodation decreases equally in all cases, the different forms of error of refraction constitute the main desideratum in its effects on the eye, and consequently the measurements of the static refraction should precede any attempt to correct the presbyopia.

It is foreign to the object of this paper to enter into any details regarding the correction of presbyopia. But one important fact should be borne in mind, viz., that the occupation of the patient, the distance at which his work is held, and the size of the object that he is obliged to see, determine the amount of correction to

be given regardless of age. It would, of course, be absurd to prescribe for a clerk, who works at a desk standing, on books that he can seldom bring closer than 50 centimeters (20 inches), a pair of glasses that would oblige him to have his work at 25 centimeters (10 inches). It would be just as absurd to prescribe for a person working on very minute objects that must be seen under large angles, a pair of glasses that would bring his near-point 50 centimeters (20 inches) because a small object the size of diamond print could not be seen distinctly at that distance.

I am now arrived at the main object of this paper. That there exists a widespread prejudice against wearing glasses is too evident to need proof. That the evil moment is postponed in most cases of advancing presbyopia until the near-point has receded to such a distance from the eye, that it simply becomes a question of splicing the arm or of wearing glasses, is likewise certain. Are there any evil effects caused by this postponement, and if there are, what are they?

It must be admitted that in the majority of cases little or no permanent harm seems to follow this wilful disregard of Nature's demands. This is partially due to the fact that in most instances when the near-point recedes so that small print and objects are not distinctly seen, and a sense of fatigue ensues when the eyes are used, larger print is substituted which can be held at a greater distance; and when necessity compels to read small print, a cursory glance and a guess are accepted as a solution of the problem. But Nature is a strict banker. She soon complains of small balances and rebels against overdrafts. It is seldom that she accepts without protest the use of the full quota of nerve energy, consequently the practitioner should be on his guard for vague headaches, pain in the back of the head, sense of fatigue in the same region, that make their appearance in early middle life, around the age of 40 or even earlier. Headaches that make their appearance toward the middle or latter part of the week with no asthenopic symptoms, after Sunday's rest, in people engaged in a business requiring the constant use of the eyes at close range, should arouse suspicions; they are frequently caused by advancing presbyopia.

While it has been admitted that in the majority of cases slight damage seems to result from the neglect of presbyopia, the fact should not be lost sight of that uncorrected errors of refraction are a fruitful source of eye diseases, and there can be little doubt that directly or indirectly they exert an influence on the nutrition of the lens. The efforts to accommodate even in uncomplicated presbyopia, while not so continuous as are the efforts in errors of refraction, nevertheless are productive of the strained condition, and coming at a time of life which predisposes to such diseases as glaucoma, cataract, etc., should not be overlooked as possible factors in their etiology. The preponderance of cataract patients, seen in the clinic over those seen in office practice, may be partially accounted for in this way: The former being culled from the poor and ignorant, who pay little attention to their eye defects, and the latter from wealthier better educated people who give their eyes more thought and attention.

Another practical point, and one that I think is more important than the former, is the question of efficiency. Here the prejudice against glasses and the inference that the use of glasses implies failure of sight, has reached the point where a workingman, especially in skilled labor, does not dare to use glasses at his work, because he fears discharge, based on inefficiency. Consequently he bungles along, not seeing distinctly what he does, to the great detriment of his work. Could there be anything more absurd? Not long since I had occasion to watch a carpenter at work putting a lock in the door. He could not see the slot in the screw heads, and bungled and scratched the lock until the screwdriver fell into the slot. He was a man of 50. My reading glasses were a revelation to him. "They are fine," said he, "but I dasn't use them at my work. They would discharge me." The application does not cease here. It is unquestionable that good eyesight greatly enhances the efficiency of everyone who has to use his eyes in close work. It follows that lack of good eyesight impairs the efficiency. Let us look at this matter by the light of Donders' table. With the exception of myopic eyes, at about 40, objects begin to blur at a distance of 12 inches from the eye. At 45, objects small enough to subtend only at an angle of five minutes only (diamond print) are not distinctly seen. Are individuals who are called on to work on small objects justified in attempting to do so without proper glass correction? I should very much dislike to be forced into having any operation performed on my eye by an oculist of over 40 years of age, whom I knew not to be myopic, who did not wear glasses for close work. Can a dentist of the same age see the details of his work, often done in minute cavities and with rather poor illumination? Are there not parts of the field of operation in general surgery where objects are found that come under angles not to exceed a five-minute limit?

These are important practical questions. The only way to overcome the difficulty is to use properly adjusted glasses for close work, and the only obstacle in the way of adopting the remedy is a prejudice based on either vanity or ignorance.

36 Washington Street.

DENGUE IN THE ISTHMIAN CANAL ZONE.

A PRELIMINARY REPORT.

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To the average North American physician, unless he be located in Mexico or in one of the extreme southern states, "breakbone fever" is so rare a disease that a case of it would probably pass unrecognized. The practitioner in the tropics, however, usually receives an early introduction to the affection and the acquaintance becomes in time an intimate one.

Persons who have previously resided in a cold or temperate climate appear to be especially susceptible to the infection, and it is for this reason that it is so prevalent among fresh drafts of men sent into warmer climates for duty.

It is not my intention to take up a general discussion of the disease here, such information being readily obtainable from any standard work on tropical medicine. The type usually encountered in Central America, however, I am informed by competent authorities, differs so much from the affection which is found in the far East, or even in Cuba, that it is only by a close and prolonged study of cases that the two classes may be identified as representing one and the same disease.

The "dandy fever" of the isthmus, while simulating the typical clinical picture in various respects, differs from it greatly in others. For example, in many instances there is a total absence of the erythematous condition constituting the so-called primary eruption. In

others the face, instead of assuming the characteristic bloated and congested appearance, is excessively pale, the sclera of the eyes being bluish in color, with absolutely no enlargement of the capillary vessels. A hyperemic or catarrhal condition of the pharyngeal mucous membrane is not present in a large percentage of patients. One point particularly noticeable in these instances is the presence of, or predisposition to, intestinal diarrhea. Jaundice is extremely rare. Only twice have I seen that significant discrepancy between temperature and pulse which is considered almost pathognomonic of yellow fever. Joint pains have been prominent in but one case, although a continuous, severe pain in the back is almost invariably present. A dull, throbbing, frontal headache is an extremely frequent symptom. The clinical picture presented strongly reminds one of an attack of influenza in a rather plethoric subject.

Arterial pressure is high, averaging, in the first stage, about 180 mm. of mercury (Riva-Rocci), and gradually returning to normal as the temperature and pulse come down.

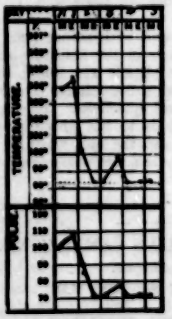

Chart 1.

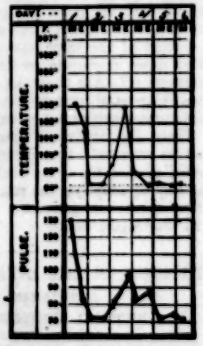

Chart 2.

Chart 1.—One of several charts in which the secondary rise was almost or totally absent.
Chart 2.—A typical dengue chart. Case admitted at height of primary fever.

During the second exacerbation, the vascular tension does not follow the temperature curve so closely, but remains somewhat lower, comparatively speaking. The period of defervescence after the primary fever is short, from twenty-four to fifty hours, and leaves the patient in a weakened but fairly comfortable condition.

Often there is no secondary rise, but one can never feel absolutely positive, unless the beginning eosinophilia ushering in convalescence is recognized, that the patient was not just at the end of a light initial stage when he first came under observation.

The terminal fever comes on about the fourth day more frequently than at any other time, and, in the greater number of cases, the temperature reaches a point fully as high, if not higher, than at the onset.

The terminal eruption has been typical in only about 1 per cent. of the cases and is usually totally absent.

Of the sequelæ none have proved to be more stubborn or difficult to combat than the neuralgic affections of the sciatic nerves. Experience has shown that the only hope of cure in these cases is removal to a cold climate, the earlier the better. When this is done the sciatica is much more amenable to treatment than when it has occurred primarily in the North.

Adenitis has been met frequently, in fact it is a question whether the so-called "idiopathic" tropical bubo is not often dependent on an initial attack of dengue for its causation.

The blood destruction is comparatively slight, probably because of the brevity of the fever, and the hemoglobin index is more often 1+ than otherwise.

The results, in detail, of the blood and urine examinations, together with a report on experimental inoculation by mosquitoes, will be embodied in a future paper; the data has not yet been sifted down and arranged for publication.

In every instance a careful and prolonged search is made on three successive days immediately following admission for the plasmodium of malaria. Stained (Wright) specimens only are employed. From quite an extensive experience it has been found that this method is the quickest, simplest and most accurate, allowing, as it does, a differential leucocytic count to be made from the same slide.

Cigarette paper and needle smears have given the best satisfaction, and a large drop is used in order to get a working area of good size, thus simplifying and rendering more certain the search for malarial organisms.

In the cases where an undoubted diagnosis of dengue is made, quinin in heroic doses, either hypodermically or by the mouth, has had absolutely no effect on the course of the disease.

Phenacetin and like antipyretics affect the temperature curve but little. Their use, however, combined with external complications of cold, affords great comfort to the patient.

The severe supraorbital headache, due, for the most part, to ocular congestion, is more readily relieved by an ice bag over the upper face and forehead than by the administration of analgesics.

In my opinion, the essential symptoms, in the order of their value, are: 1. Sudden onset. 2. Severe and continuous supraorbital headache. 3. Deep congestion of face and neck. 4. Backache and pain of an excruciating character in the loins.

An exhaustive blood examination, preferably by the aid of reliable stains, should always be made in order to partially check the possibility of pernicious malaria.

In uncomplicated dengue the mortality is practically nil. In a series of considerably over one hundred cases I have not seen a single one in which a serious symptom at any time became manifest.

One attack undoubtedly has some immunizing effect, although some of our men have suffered from it twice within a period of a few weeks. Adult natives seldom contract the disease, while it is seen frequently among the children. Newcomers, especially if from our northern countries, seldom escape.

There is good reason to believe that dengue was formerly a much more serious affection in this region than it is now. French physicians in the city of Panama, who have practiced on the isthmus for many years, claim that the disease is identical with the "Chagres fever," which was looked on by the ignorant natives with such superstitious dread. Its mortality was placed at 50 per cent., in reality it was probably much lower.

Dengue has already played an important part in increasing the ratio of sick days among the men stationed in our most recently acquired territory, and, although

the hygienic measures now being brought to bear on the canal zone will be of almost inestimable value in stamping it out, we may expect to hear of this disease much more frequently in the future than we have in the past.

New Appliance.

APPARATUS FOR HANDLING COMATOSE PATIENTS.

CHARLES S. WHITE, M.D.
House Surgeon, Emergency Hospital.
WASHINGTON, D. C.

In every hospital doing emergency work the problem of moving unconscious patients through dark, narrow halls and down flights of uncertain stairs confronts the surgeon almost

Orderly using sling.

daily, and to facilitate the handling of such cases I have had made a simple belt or sling.

This is made of heavy canvas, 30 inches long and 10 inches wide. Each extremity is sewed securely about an iron rod three-eighths of an inch in diameter. The iron pieces have their ends bent squarely in a rectangular form, leaving sufficient space to fasten leather straps, 11 inches long, each pair of which join at a metal ring about 2 inches in diameter. The sling is completed by a strap riveted in one ring, a buckle in the center, and connected with the other ring by a snaffle.

The illustration shows the manner of using it. By rolling a patient first to one side, then to the other, it is placed under him, the strap thrown over the shoulder and snapped, the whole process requiring less than a minute. If the patient is unusually large the sling can be adjusted by the strap which goes over the shoulder. One arm is slipped under the patient's neck, the other under the knees.

The chief use of this apparatus is in moving comatose cases in crowded dwellings, and this latter term includes some modern apartment houses. The advantages are:

1. The weight is properly distributed on the person carrying the load; much of it is placed on the muscles of the back, where it belongs.

2. One person can do the work usually required of two or more.

3. It may be applied quickly.

4. The cost is trifling and it is simple in construction. We have used this sling for several months and find it indispensable. The ambulance driver has carried patients weighing 170 pounds or more from the second and third floors with less exertion, he says, than in the usual manner with the assistance of another person.

A STUDY OF EIGHTEEN CONSECUTIVE CASES OF WHOOPING COUGH TREATED BY THE ELASTIC ABDOMINAL BELT.

THERON WENDELL KILMER, M.D.
Assistant Attending Physician to the Out-Patient Department of the Babies' Hospital.
NEW YORK CITY.

The article with the above title appeared in THE JOURNAL, Dec. 10, 1904, page 1749, without Figures 1 and 2. This omission was due to an oversight and these two illustrations of the belt as applied in whooping cough are shown here. The method of application was described in the article.

Fig. 1.—Stockinette Band.

Fig. 2.—Elastic Abdominal Band.

Sanatoria in Germany.—The annual meeting of those officially interested in the sanatorium movement in Germany was held at Berlin, May 20, in the main hall of the parliament buildings. It was announced that there are at present 69 sanatoria, with 5,800 beds, for working people insured against sickness. In addition, there are 25 private sanatoria which receive these patients. Nine more are in process of construction and a number are projected. To date, 30 millions of marks, or about $7,500,000, have been spent for sanatoria for pulmonary affections. The central committee has spent about $300,000 for the same purpose. It was proclaimed that the antituberculosis dispensaries, with medical and hygienic supervision of the patients at their homes, are as important as the sanatoria in the campaign against the disease, but they must act in co-ordination with other institutions, sanatoria, etc. Berlin is planning a system of such dispensaries throughout the city, all under one management, with special attention to tuberculous children. Funds have already been partly provided for this purpose by the departmental sickness insurance company. It was explicitly stated that these specialist dispensaries must not be connected with a polyclinic nor encroach on the sphere of the physician in any way. Wolff described how the polyclinics are already doing work that could be transferred to a special dispensary to the advantage of all. A school sanatorium is projected by the Charlottenburg city authorities, to be open all the year.

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TRANSPLANTATION OF TUMORS.

After so many years of painstaking but fruitless studies of tumors by the ordinary microscopic methods, there seems little hope of discovering their specific cause in this way, and we must look for future progress chiefly along other lines of research. What line of research will be successful is the interesting question. Will it be one that is still unemployed, or is it perhaps among those newly brought to light? The recently developed methods of observation of bodies hitherto classed as "ultramicroscopic" seem rich in possibilities, for they represent simply an extension of methods, now familiar, which have been employed with success in solving so many problems. It has long been thought that in diseases apparently infectious, in which bacteria and protozoa could not be seen, the difficulty lay in the limit of magnification possible for our microscopes. The investigators who hold to the animal parasite etiology will hope for progress through development of the methods devised in the Ann Arbor laboratories, for the growth of trypanosomes on artificial media. But it is probably a long step from the cultivation of the hardy rat trypanosome to the isolation of so elusive an organism as the hypothetical cancer parasite.

In the meantime, a fruitful field of research seems to lie in the study of tumors inoculated from one animal to another for several generations. Here the principles involved are such as have been employed in bacteriology, the chief difference being that living animals are employed instead of test tubes for the inoculations and transplantations. Among the most successful of these experiments are those of Leo Loeb, working with a sarcoma of the white rat, and Jensen, who transplanted a carcinoma for many generations in mice. This last series is of particular importance, for, in general, experiments with sarcoma have been more successful than carcinoma, and the close resemblance of sarcoma and granulation tissue leaves always some room for argument. A valuable series of successful transplantations of sarcoma in the dog has recently been reported from Ehrlich's laboratory by Stricker.[1] The original tumor was a round-cell sarcoma, primary on the penis of a 7-year-old dog, and it was transplanted successfully to thirty-one other dogs, and passed through several generations. The development of metastases in several of the inoculated dogs, as well as other features of its growth, leave no question regarding the sarcomatous nature of the tumor. Age or race of the dogs seemed to have no influence in the success of the transplantations. The latent period between the time of inoculation and the development of a demonstrable tumor was usually about three weeks, while death occurred in from three to five months. One of the most suggestive results obtained was that dogs that had once been successfully inoculated with the tumor later showed themselves immune to further inoculation, and Stricker promises further experiments on this important subject. So far, these experiments, like others of the same nature, have failed to show any results that are positively for or against the parasitic theory. Stricker found that he could get successful transplantations with tumor cells kept twenty-four hours at 13 C., or for two hours at 50 C. Jensen found in his experiments that exposures at —10 C. and +46 C. did not prevent successful inoculations; higher and lower temperatures were found detrimental. As it has been found that testicular and salivary gland cells of rabbits will withstand similar temperatures without losing their vitality, the conclusion might be reached that all successful transplantation tumors are the result of the growth of the implanted cells. On the other hand, it is equally possible that the cancer parasites, if such there be, have powers of resistance quite similar to the cells in which they grow.

The possibilities of securing successful transplantations of tumors are not great. Stricker made seventy-nine inoculations of sixteen malignant and of six benign tumors from dog to dog, and six inoculations of two malignant tumors from cat to cat, without success. Inoculations of tumors from one species of animals to another by different experimenters have been fruitless, although the literature contains some questionable reports of inoculation of malignant tumors from man into animals.

An interesting experience of Vischer[2] may explain some of these supposedly positive results. He inoculated fragments of melanosarcoma into animals, and after a time observed what seemed to be pigmented tumors growing in the animals. These tumors, however, did not progress and kill the animals as would true malignant growths. Microscopic examination showed what might readily be mistaken by the inexpert for pigmented sarcoma, but which was really granulation tissue growing among pigment granules left from the original inoculated material. The sarcoma cells had all been absorbed, but the pigment was insoluble, and, acting as a foreign body, led to proliferation of the connective tissue. What seemed to fully establish the success of the experiment, an apparent secondary growth in a regional gland, turned out to be a gland that had received considerable of the pigment by way

1. Zeitschr. für Krebsforschung, 1904, vol. i, p. 413.

2. Beit. zur klin. Chir., 1904, xlii, 617.

of the lymphatics, and, as a result, had reacted by proliferation. Similar appearances were afterward produced by the injection of pigment particles into experimental animals. In the light of this experience Vischer has reviewed the literature critically, and comes to the conclusion that there is no certain instance of successful transplantation of sarcoma from man to animals, any more than there is of carcinoma.

ACCURACY IN MEDICAL WORK.

In a recent address Cabot[1] expresses the opinion that the use of exact methods in diagnosis, the use of instruments of precision, and the keeping of full and accurate records, will in future times be regarded as the most striking characteristics of the progress of medicine in the last fifty years. In other words, the tendencies in the medicine of to-day are all in favor of more accurate methods. As a result of these tendencies, certain changes have occurred, according to Cabot, both in medicine and in the physician. In medicine exact methods have led to the abandonment of many of the loosely applied terms which uneducated men have so long used as a cloak to ignorance. The gradual disuse of the term "diathesis" to describe certain obscure symptoms, the disappearance of the word "bilious" from our vocabulary, the absence from modern diagnoses of such diseases as congestion of the brain or liver, and the reclassification of the multitudinous affections formerly grouped under the general head of rheumatism, have all been due to modern methods. As a result of this vigorous pruning in the field of medical terms and of the careful reclassification which many great groups of diseases have undergone, the dividing line between knowledge and ignorance has been sharpened, and we are able to see much more clearly where our future work must be concentrated.

Cabot seems to think that one of the most valuable results has been the building up in us of habits of mind which are distinctly antagonistic to habits of deception. He describes the hazy condition of mind of the physician who has made an inaccurate or slovenly observation, and suggests that such an individual falls into the habit of drawing on sources other than facts, in order to clear away the haze, when he comes to state his results. The habit of accurate observation, on the other hand, says Cabot, teaches us to lean on fact, to analyze and deduce from fact, and to avoid embellishment and unwarranted assertion. We may charitably call attention to the fact that in a man of careless habits of thinking, this may be such a gradual self-deception as not to involve any moral turpitude—save for the "sin of ignorance," as it has been called. In other cases, it is lying for the physician to give expression to such inaccuracy. Whether or not we agree with Dr. Cabot's explanation of the development of lying or truth-telling tendencies, we must deplore any deception, whether the physician himself be a fellow-victim of his ignorance or his patient be the dupe of his deceit. We are not here discussing the withholding from patients of facts that would be harmful. This is to be done tactfully and without false statements, as Cabot has elsewhere pointed out.

The effect of accurate methods on the physician has not been one of unalloyed benefit. Of the unfavorable results of the accurate methods, perhaps the most prominent one is the tendency to use instruments of precision in place of a brain instead of in conjunction with a brain. As Cabot truly says, it is the brain behind the instrument which is the achieving force. Again, it must be pointed out that accuracy is only a relative term, and that there is a limit of error both in the instrument and in the observer. Furthermore, accuracy is relative not only to the limitations of the instrument employed, but also and chiefly to the purpose desired. We can not be accurate in everything; we must be accurate somewhere, and the wise physician is he who knows when and where to be accurate, and when and where to get along without accuracy.

There is a tendency to separate the laboratory man from the clinical man, which is to be deplored. The most complete view of a case is one including a consideration of both the purely clinical and the laboratory facts, and if these two sets of facts are to be interpreted by two distinct men the interpretation is much more apt to be faulty than if the same man does both the clinical and laboratory work. This view is a rational one and its practical realization is perfectly feasible. The modern tendency to distinguish between laboratory and clinical diagnosis is certainly detrimental to the best interests of the patient, and, as in the end this is a point to be considered, it should be the aim not only to train the student to do his own clinical laboratory work, but also to impress on him the necessity of becoming proficient enough in it to be able to intelligently interpret the laboratory findings in his own cases.

1. California State Journal of Medicine, December, 1904.

PROGRESS IN THE CHEMISTRY OF THE ALBUMINS.

Through a long series of researches it has now been definitely established that the complex molecules of the various albumins consist of long chains of interlinked simpler molecules of the amino-acid type. Systematic degradation by chemical or physiologic methods breaks up the complex molecule into its ultimate fragments; the number and character of the fragments in the various albumins are rapidly becoming known to us. On comparing individual albumins marked differences in ultimate constitution are found; the albumin of muscle is different from that in milk, while both of these are in turn different from that obtained from maize. The holding, for example, in arginin, one of the fragments most widely distributed in the molecules of various albumins, may vary enormously, for while some albumins may contain as much as 83 per cent. of arginin,

others may contain only 40 per cent., others only 20 per cent., and still others as little as 1.8 per cent.; even albumins from the same muscle may vary in their arginin content. One mode of difference among the albumins consists in inequalities in the variety of the ultimate fragments of which they consist; thus, while the molecule of ordinary serum albumin contains no less than seventeen or eighteen varieties of elementary fragments (amino-acids), the molecules of the relatively simple protamins contain only four or five such varieties. On the other hand, the more complex proteids like the nucleoproteids, the mucins and hemoglobin contain, besides a highly complex albumin molecule, other bodies like the phosphorus-holding nucleinic acid, the sulphur-containing chondroitin or the iron-bearing hemin.

The simple group of albumins known as the protamins, discovered by Miescher in the testicles of fish, have been studied most thoroughly by Kossel and his pupils with surprisingly interesting results. It is easier with such simple bodies than with more complex ones to determine the nature of the groups entering into the constitution of the molecule, to ascertain the mode of union of these groups with one another, to estimate the relative amounts of each present, and to draw conclusions as to the positions they occupy in the chain which represents the whole molecule. Thus salmin, derived from salmon sperm, has been shown to consist of only five varieties of constituent fragments, namely, urea, diamino-valerianic acid, serin, mono-amino-valerianic acid and prolin, there being about ten molecules of the first variety of fragment, ten of the second, two of the third, one of the fourth and two of the fifth in each molecule of salmin. Clupein, from the herring, is a little more complex, containing still another amino-acid, namely, alanin, while scombrin from the mackerel is simpler, containing only four varieties of constituent fragments—urea, diamino-valerianic acid, alanin and prolin. The urea and diamino-valerianic acid in these molecules lie adjacent to one another in the chains; indeed, they are regarded as being united to form a higher unit, which is no other than arginin. All the protamins are rich in their holding in diamino-acids (hexone bases), and this accounts for the strongly basic properties which they manifest.

The ordinary albumins, such as serum albumin and serum globulin, differ from these simpler protamins, chiefly in that they contain, in the first place, a much greater variety of ultimate constituent fragments, and, in the second place, a very great number of the less basic mono-amino-acids. As has been pointed out, the protamins contain mono-amino-acids, singly or in pairs; the ordinary albumins contain often ten or more different mono-amino-acids, and not only those of the monobasic series, but often also dibasic amino-acids, like aspartic acid and glutaminic acid. Moreover, the carbon atoms of these constituent amino-acids may be arranged as straight chains, or the chains may be branched; the groupings met with may belong to the fatty-acid series, or they may be aromatic bodies containing closed rings; not infrequently a heterocyclic group is encountered, as in prolin and in histidin.

This richness in form presented by the different albumin bodies is undoubtedly of great importance in connection with the different parts they play in metabolism. Normal physiology begins to assume a new aspect in the light of these new facts, and it is reasonable to suppose that pathology will ultimately be correspondingly benefited. Indeed, already advances in pathology are being made along these lines. We called attention in a recent issue to Neuberg's demonstration that in amyloid disease the new substance is formed by a transformation of albumin through which its holding in diamino groups is increased. Kossel and Wakeman have shown that in liver necrosis there is an abnormal partial decomposition of proteids as a result of which the liver becomes poorer in bodies rich in nitrogen, especially in arginin. Further, in diseases in which abnormal proteolysis occurs, certain of the constituent amino-acids may be given out in the urine; thus Ignatowski has demonstrated the presence of glycocoll (amino-acetic acid) in the urine of gouty patients, and other investigators (Abderhalden and Barker) have isolated from the urine of dogs poisoned by phosphorus no less than four such amino-acids, namely, glycocoll, leucin, tyrosin and phenylalanin.

The studies made of tumors and rapidly growing young tissues rich in nuclei have shown further the heaping up in them of certain richly nitrogenous organic bodies—combinations of phosphoric acid with the purin bases (xanthin, guanin, hypoxanthin and adenin), and such pyrimidin derivatives as uracil, thymin and cytosin. In the nucleins we have to deal, as Kossel has emphasized, with organic molecules which contain chains of atoms in which there is a tendency for nitrogen and carbon atoms to alternate with one another. It is not impossible that such an intramolecular arrangement stands in some important relation to the mechanisms of growth.

The various analytical studies outlined above have been happily supplemented by synthetic researches. Emil Fischer of Berlin and Curtius of Heidelberg are already far on the way toward the synthesis of the albumin bodies. Not only have nearly all the constituent fragments of the albumin molecule been synthesized, but it has already been possible to unite two, three or more of these amino-acids artificially into chains—the so-called dipeptides, tripeptides and other polypeptides. A chain of eight amino-acids, an octopeptide, has even been obtained by Curtius, at least in the form of its ester. These polypeptides behave in many ways like natural bodies, are split similarly to the albumins by digestive ferments, and, indeed, may be regarded as very simple albuminous substances.

THE PROGRESS OF ORGANIZATION.

The rapidity with which the state societies all over the country have accepted the recommendation of the American Medical Association and have adopted a uniform plan of organization is both remarkable and pleasing. The most hopeful did not dream that so much could be accomplished in four years, and that in less than this time three-fourths of the state societies would have been reorganized and would be working under the same plan. Four, Alabama, Connecticut, Massachusetts and Pennsylvania, already had the essential features of the new plan in their organic law, so that these may be considered as part of the great body working under a uniform plan as though they had adopted all the non-essentials. Aside from the above—and New York—the only states that have not finally acted on the matter are Georgia, Idaho, Maine, Montana, Nevada and Wyoming. These will probably take final action at the next annual meeting, and as there is practically no opposition in any of these states, we may confidently hope that at the next annual session of the American Medical Association, all but one state will have adopted the essentials to uniformity of organization. The only state that has refused to reorganize is Virginia, but the members of that association will reconsider when they realize the great advantage to the physicians of the whole state—not necessarily to the members of the state society—of the county society plan.

While all this has been accomplished, it simply means that the frame-work for the structure is complete and that the important work of finishing the structure is yet to be done. In some states, steady and efficient work has been going on since they were reorganized, and in some it may be said that practically every county has a society, and that consequently there is brought within the reach of every country practitioner a chance to join the organization and to obtain all its benefits, without sacrificing time and money to go to some distant place of meeting. In other states, especially in those that were only organized last year, little has been done in this line thus far, although in no state can it be said that something is not being accomplished. The great trouble is that this work is voluntary, and volunteers, men who are willing to sacrifice themselves for the good of their profession, have not come forward; but there are such men in every state, and in nearly every county, and when their attention is called to the need for their services they will be found ready to volunteer. The principal trouble to-day is that the great majority of the members of the profession do not realize what is being accomplished in this work and what are the possibilities for the future; how to reach these men and how to get them to take hold is a problem of the day. We hope that these words may be read by many such, and that they will take up the task. Meanwhile, the work being accomplished by Dr. J. N. McCormack is bearing fruit, for as he goes to various sections of the different states, he reports that men are being found everywhere who give evidence of interest in the work and of being anxious to co-operate, who before this had given no thought to the matter, and, in fact, in many instances, knew nothing about what was being done.

In the meantime, while the work of organization is going on in some parts of the country, in other parts, where organization is more or less complete, the fruits of such an organization are to be seen. In other words, good work is being done, not only from a scientific but from a utilitarian point of view.

MORE CASES OF POISONING FROM WOOD ALCOHOL.

During the mobilization of the Russian troops at Dorpat this summer, a number of men and women celebrated the occasion by partaking of a local beverage known as Kuntzen's balsam. This is made from alcohol, water, peppermint leaves, salvia, lavender, etc., and, like our Jamaica ginger, is much affected by the Livonians as an internal remedy. Like it, also, this balsam is employed as a beverage when other alcoholic drinks are not readily obtainable. On this occasion, however, just as in the Stryker's farm holocaust, the drink was mixed not with ethyl but with methyl alcohol, probably of the "deodorized" variety, so well known in the United States under the name "Columbian spirits." Of the participants in the Dorpat debauch, sixteen men and one woman died and three men became blind.

A more recent Associated Press dispatch reports from Kiew the death of twenty people (about the same number as in New York) from drinking methylated brandy. Now that this adulterant of alcoholic mixtures is becoming popular in Russia, we may confidently expect the same experience this country is passing through—the substitution of a deadly poison for grain alcohol in the manufacture of our flavoring extracts, essences, drugs, beverages, perfumes, liniments and other mixtures.

In spite of the widespread use in Russia of methylated mixtures for making varnishes, for burning in spirit lamps, and for other manufacturing and household purposes, not a single case of death or of blindness occurred from their internal use until 1904. Thus we have to this date, in Russia alone, at least thirty-seven cases recorded, and there are probably many others. The reason, as shown conclusively by the Buller and Wood[1] articles, is evident. The introduction into Russia and the general employment of "purified" or odorless wood alcohol is a comparatively recent event. Previous to this year, the wood alcohol in common use was the ordinary article, of a vile odor and decidedly repugnant to the taste; it was not in use as an adulterant because its presence could easily be detected, nor as a beverage because no one had the hardihood to drink it, even when disguised with fra-

1. Poisoning by Wood Alcohol, THE JOURNAL, Oct. 1 29, 1904.

grant oils. Now, to quote the circular descriptive of "eagle spirits" and "lion d'or," two of the many names under which "deodorized" methyl alcohol poisons the people of this country, "they are in every respect genuine substitutes for grain alcohol for all purposes connected with the arts and manufactures."

At present before Congress is a bill (H. R. 9303), introduced by Mr. Boutell of Illinois, to provide for the reduction of the tax on grain alcohol to a point where it can compete with the untaxed "higher grades" of odorless wood alcohol. Another bill (H. R. 9302) will, if it carries, "free from tax alcohol made unfit for use as a beverage." Such a provision is active in Germany, where sixty millions of proof gallons are annually used for industrial purposes, against five millions in the United States. These bills ought to have the support of the medical profession, not only because they would enormously stimulate the manufacture of an agent that can be used for a hundred good purposes at present rendered impossible by the high tax, but because they will effectually prevent the poisoning constantly going on in this country.

THE SERUM-TREATMENT OF TYPHOID FEVER.

At the Seventh French Medical Congress recently held at Paris Professor Chantemesse[1] reported the results obtained during three and one half years in the treatment of 545 cases of typhoid fever with serum obtained from a horse rendered immune by injections of soluble typhoid toxin. There were among these cases 22 deaths (4 per cent.), while in the hospitals of Paris generally there were among 3,199 cases from April 1, 1901, to Oct. 1, 1904, 581 deaths (18 per cent.) It was found that intestinal perforation was not diminished as a result of serum-treatment to the same extent as were other causes of fatal termination. As the intestinal lesions are the initial alterations, it is important to inject the serum early. Perforation of the bowel was observed in no case treated with serum during the first week of the disease. Cold baths are given when the temperature is high.

GOOD INTERPRETATION OF LAW IN IOWA.

The Iowa legislators who framed the medical-practice law of that state obviously intended it to guard the public against unqualified persons who might profess to heal disease. This intent seems to have been grasped by the Supreme Court of Iowa in two recent decisions. In one case the irregular practitioner was apparently an eye specialist, prescribing spectacles, exercise and diet, while the other was a magnetic healer, claiming to cure practically all human ailments, but especially cancer. The defendants had been acquitted by the lower courts on the misconceived ground that, as they gave no medicine or drugs, they, therefore, did not need to take out a license under the state law. The Supreme Court reversed these acquittals, and holds that the defendants violated the law. The ground covered by the decisions seems sufficiently comprehensive to include nearly every form of quackery, and to make it impossible to thus impose on the credulous and ignorant in Iowa. It is hoped that this precedent will be followed in other states where quackery of this kind has had too free a field. It gives us confidence in the general good sense as well as in the legal knowledge of the courts. We trust that there will always be as much good sense and legal knowledge shown in future cases involving the protection of the public health.

1. See page 1905.

TO PREVENT SELF-ADVERTISING.

There are few things that will injure a physician in his own locality so much as having his name appear in local newspapers. One of the commonest charges made in our societies against individual members is that of advertising. We may call it jealousy, envy or what not; that it is true is well known. Very often notices appear in lay papers without the knowledge or consent in any way of the one mentioned. Such can not be helped. When, however, such occurrences take place often there is always good ground for suspicion. Many county societies have discussed the question of prevention, believing that prevention is better than punishment after the deed has been committed. One way recommended is that which has been referred to in our columns on two or three occasions. Among these was the action taken by the Orleans Parish Medical Society, which passed a resolution[1] to the effect that "copies of all articles appearing in the daily press of this city relating to members in this society shall be placed by the secretary in a scrapbook, which shall be kept on the president's desk for the inspection of members. The book shall be indexed. Any member whose name shall appear therein will have the privilege of attaching thereto a written explanation." This week we record the action of another society[2] which adopted a similar measure. We can not but believe that this idea, if carried out, will result in great good. It may be easy for an individual to explain how it happened once or twice, but not when it has occurred scores of times.

A TRUE PATRIOT.

That a physician should take an interest in public affairs and should do his duty as a citizen interested in the maintenance of good government and public morals, has always been advocated by THE JOURNAL. Under normal conditions he is honored for so doing. The public appreciates good service of this kind, and he does not lose, either professionally or financially, on account of his public spirit. Occasionally, however, in abnormal communities, one may suffer for well-doing, and virtue be its own and only reward. Hurley, Wisconsin, appears to be such a place. Chiefly owing to the efforts of a public-spirited physician, an appalling state of official moral rottenness was exposed, resulting in the interference by the highest state authority, and in the removal from office of certain of the offending officials. Public sentiment, however, was

1. THE JOURNAL A. M. A., Aug. 27, 1904, p. 615.
2. See page 1878.

strongly with the offenders. The physician was removed from his position as health officer, was reproved publicly by the common council, and was boycotted by the public to such an extent that he found it advisable to remove to another locality. There was nothing, so far as known, alleged against his character nor against his competency as a physician. It was simply his well-doing that was his undoing in that community. On the whole, we feel like congratulating him for being thus persecuted for righteousness' sake, and we trust that he will receive his reward in this life as well as hereafter. As for the community where such things can be done, the best that can be said is that it is a good place to leave.

THE OLLIER MONUMENT.

The unveiling of the statue of the late Professor Ollier in the city of Lyons last month[1] is a matter of some significance, illustrating the well-known saying that science knows no national boundaries. Delegates from surgical societies from various parts of Europe were in attendance to do honor to the distinguished surgeon. It was throughout an international affair, for the statue itself had been paid for, as our readers know, by contributions from all parts of the world. Notable among the delegates was Professor Lassar from Berlin, who represented the German Surgical Association, that body wishing to offer its tribute through a personal representative and through one of its most eminent members. This is another proof that the strained relations which have existed between Germany and France since 1870, and which, unfortunately, had to some extent involved the feelings of eminent medical men, are now disappearing. Germany has less to forgive and forget than has France, but that fact has not diminished the significance of the gracious tribute thus offered, and we trust that when the opportunity occurs the medical profession of France will not be found wanting. In this connection it may be remarked that the municipality of Lyons has, perhaps, done more in the erection of memorials to men eminent in medicine than has almost any other city. It is adorned with statues of Claude Bernard, Bonnet, Petit, Gensoul and others, and streets and squares have also been named after medical men. France honors its medical luminaries as perhaps no other nation does.

THE PURE-FOOD BILL.

President Roosevelt's message is notable among similar documents for the attention which it gives to matters bordering on medical and sanitary science. As medical men we can heartily approve what he says in regard to the dangers of urban concentration and crowded tenement districts, child labor, etc., but we wish that he had made insistent mention of the importance of passing the pure-food bill left over by the previous session, and really the most important measure now before Congress. The poisoning of the population for profit by mercenary manufacturers is in its way a much more vital question than any mentioned in the message. We do not know what the program of the Congressional leaders is. It is said by newspapers, with what truth and authority we know not, that, beyond the passage of the usual ordinary and extraordinary appropriation bills and some special colonial legislation, little will be done. If such is likely to be the case, it will be well for the medical profession to use its best efforts to insure the inclusion in that little of the passage of this salutary act. There should be no difficulty, but as we know there are powerful influences working against it, and unless every effort is made against them, they may succeed. We spoke at some length on this point last spring and gave the bill in full.[1] The latest suggestion on the prospects of the bill is that its provisions may be limited to apply only to pharmacopeial preparations, and that in such case the powerful antagonism of the nostrum manufacturers will be removed and the bill easily pass. It is a reflection on Congress that such a statement can be made, but the power of moneyed interests over our lawmakers has been too often exposed to require any beating about the bush in the discussion of the subject. It remains to be seen what the individual members of the profession have done and will do. During the long time that has elapsed since the bill came before Congress there has been ample time for each physician to let his representative in Congress know of the feeling of the local profession on the subject, and to emphasize the great economic and hygienic importance of the bill. There remains time now to exert pressure, and thereby to favor good legislation, to protect those who are daily being injured by impure foods, and incidentally to show the interest of the profession in public welfare.

1. The Journal, Dec. 10, 1904, p. 1800.

Medical News.

ILLINOIS.

Hospital Dedicated.—St. Joseph's Hospital, Elgin, was dedicated with solemn ceremony by Archbishop Quigley, December 13.

Personal.—Dr. Charles B. Johnson, Champaign, whose term of office ends December 31, will be succeeded by Dr. Ralph E. Niedringhaus of Granite City.——Dr. Benjamin F. Elfrink, Chenoa, who has been ill with septicemia, has been taken to Chicago for hospital care.

The Ottawa Tent Colony.—Dr. J. W. Pettit has issued a leaflet giving a brief report of the results obtained in the Ottawa Tent Colony established by the Illinois State Medical Society for the treatment of tuberculosis, not for gain nor as a charity, but on as nearly a self-supporting basis as practicable. The total admissions thus far have been 59, of which 24 were advanced cases. Of these 6 improved, 3 are convalescent and several are still under treatment. The incipient cases all made remarkable improvement from the inauguration of treatment.

Smallpox.—During November 225 cases of smallpox were reported from 12 counties, with 25 deaths. The disease was reported in the following localities:

Clark County, Martinsville Township; Cook County, Chicago, La Grange, Morgan Park, Orland and Riverside; Green County, Roodhouse; La Salle County, La Salle; Logan County, Elkhart; Macon County, Decatur and Oakley; Madison County, Granite City, Venice and Alton; Montgomery County, East Fork Township, Fillmore and Irvin; Pike County, Griggsville; Saline County, Galatia and Ledford; Sangamon County, Springfield; St. Clair County, East St. Louis and Belleville and vicinity of O'Fallon.

Cook County Hospital Staff.—The new president of the board of county commissioners has announced that with the aid of

1. The Journal, April 2, 1904, pp. 894 and 910.

Drs. Frank Billings and Fernand Henrotin he has evolved the following plan for selecting the attending staff of Cook County Hospital:

A staff of seventy-one physicians and surgeons to be appointed by the president and confirmed by this board, the said appointments to be made as recommended by a nominating commission of twenty-five doctors of medicine selected by the president, the term of service of the commission and of the staff members to be six years, vacancies during this period to be filled in the same manner as original appointments are made.

Members of the attending staff shall be ineligible to reappointment for six years succeeding their term of service, except upon a two-thirds affirmative vote of the nominating commission. There shall be no money paid to the members of the staff for work at the county hospital. Strict attention to all duties will be required. The president, for cause sufficient to himself, may reject the name of any eligible submitted to him by the nominating commission. The nominating commission shall serve also as a consulting staff under specified conditions, but shall receive no pay in either capacity.

Chicago.

Deaths of the Week.—During the week ended December 10, 512 deaths were reported, 35 of which, however, were "holdovers" from November, making the net deaths 477 and the annual death rate 12.89 per 1,000. Pneumonia heads the list with 85; consumption follows with 65; then come heart diseases and violence, 50 each, and Bright's disease, 41.

Coroner's Annual Report.—In Cook County during the year ended November 30, the annual report of the coroner states, 5,960 deaths were investigated, of which 575 were due to the Iroquois fire, 426 to suicide and 382 to railroad accidents. He recommends that the following causes of accidents and crime receive attention: Carelessly operated railway excursions, the carrying of concealed weapons, grade crossings, overcrowded and wretched street car service and giant firecrackers.

INDIANA.

Osteopath Discharged.—The three criminal charges against E. S. Morrow, an osteopath of Columbus, practicing medicine without a license, have been dismissed for lack of prosecution.

Personal.—Dr. Caleb A. Pritchard, Gosport, who had the misfortune to be passing when the Farmers' bank was about to be robbed, was seized by the robbers, bound and gagged and carried into the bank building.

Society Meetings.—The Fort Wayne Academy of Medicine held its annual meeting November 14, elected the following officers: President, Dr. Alfred Kane; vice-president, Charles G. Beall; secretary, Dr. Adam L. Schneider, and treasurer, B. P. Weaver, and adopted the following resolution:

Resolved, That copies of all articles appearing in the daily press of this city relating to regular physicians of this city shall be placed in a scrap book, which shall be kept on the secretary's desk for the inspection of members.

All articles appearing between meetings of this society shall be read at each meeting, and any member whose name shall appear therein will have the privilege of attaching thereto a written explanation. The book shall be indexed.

The Fort Wayne Medical Society, the Medical Society of Allen County, met December 6 and elected the following officers: President, L. Park Drayer; vice-president, Dr. Maurice I. Rosenthal; secretary, J. Clifford Wallace; treasurer, Dr. William P. Whery, and Dr. Kent K. Wheelock, censor, to serve for three years.

MARYLAND.

Still in Jail.—Dr. Joseph C. Ohlendorf, convicted of manslaughter in the death of Madge Hale in Prince George County by an alleged criminal operation, is still in jail. The judge decided that it was not within his province to release him in habeas corpus. The court has, however, granted him a new trial because of faulty indictment.

Personal.—Dr. Frederick G. Mitchell, Verona, Baltimore County, will retire January 1 and devote himself to agriculture.——Dr. Rudolph B. Tensler of Virginia, now superintendent of St. Luke's Hospital, Tokio, Japan, is touring the country in its interests and has recently visited Maryland.——Dr. Josiah S. Bowen, Mount Washington, has been elected president of the Kappa Psi, a medical and pharmaceutical fraternity.

Rare Books.—A remarkable exhibition of rare medical books was made at the Johns Hopkins Hospital Historical Club by Dr. F. P. Henry of Philadelphia, December 12, viz., First Book on Diseases of the Eye, by Benvenutus Grassus, 1474; First Medical Dictionary, Synonyma Simonis Genuensis, 1473; First Book on Diet, by Isaac, 1487; second edition of First Book on Diseases of Children, by Paulus Bagellardus, 1487. Dr. Harvey Cushing spoke on "Dr. Garth: Kit Kat Poet, 1661-1718."

Maryland Society for the Prevention of Tuberculosis.—This society was organized at McCoy Hall, Johns Hopkins University, December 13. The society was recommended at a meeting of prominent citizens held recently under the auspices of the State Tuberculosis Commission and is indirectly a result of the exposition held in Baltimore last winter. Dr. William Osler presided and addresses were made by Dr. E. O. Otis, president of the Boston society, and by Drs. William H. Welch and W. S. Thayer. All citizens who are interested in the prevention and control of the disease are eligible for membership. The new society has two general plans in view: To educate the people and to secure proper legislation. The great interest shown by the public here in the exposition last winter gives reason to hope for very large results from such an organization as this.

Baltimore.

Expelled.—Dr. Nathan Herman has been expelled from the Baltimore City Medical Society for unprofessional conduct.

Much Diphtheria.—The health commissioner calls attention to the unusual increase in the number of cases of diphtheria in the city, as shown by the December records. An average of 9 cases a day is reported.

Personal.—Dr. R. Tunstall Taylor sustained a compound fracture of the left arm December 9, while getting off a street car.——Dr. Irvin H. Elderdice has sued the United Railways and Electric Company for $50,000 for injuries received in February, 1903, through alleged negligence of the company.——Dr. Tregant Burrow, who has been traveling in Europe, returned December 7.——Dr. B. Merrill Hopkinson has been elected president of the Baltimore Athletic Club for the thirteenth consecutive annual term.

Osler Testimonial.—A meeting to further this movement was held by the Baltimore City Medical Society December 6. Addresses were made by Drs. Edward N. Brush and William H. Welch. Great interest is being manifested in it all over the country. Dr. John H. Musser of Philadelphia has accepted the chairmanship of the national committee, composed of 100 prominent physicians throughout the country. The governor of Maryland is the national treasurer, and Dr. Henry Barton Jacobs, secretary. About $10,000 has already been subscribed here. Dr. Osler was consulted as to his preference and expressed himself in favor of a building to be erected here for the accommodation of the valuable medical library of the Medical and Chirurgical Faculty of Maryland, so largely the result of his own interest and effort. The city will be divided into districts and a canvass made. Dr. Osler has greatly endeared himself to this community and the movement is by no means limited to his own profession. The bankers, druggists, lawyers, merchants and other professions and trades have appointed committees to take subscriptions among themselves.

MASSACHUSETTS.

Will Soon Begin Operations.—It seems likely that soon the actual start will be made on the Peter Bent Brigham Hospital, for the United States Court of Appeals has sustained the will. Efforts are being made to have a considerable part of the great hospital which this $5,000,000 will make possible, devoted to the care of consumptives.

Bequests.—Boston hospitals have recently received many large bequests, as follows: New England Hospital for Women and Children, $16,000, one-half to be used for the training school for nurses and the remainder for general expenses; from Charles E. French the Massachusetts General Hospital will get $10,000; the House of the Good Samaritan, $1,000; Carney Hospital, $1,000; Boston Children's Hospital, $500, and the New England Hospital for Women and Children, $500.

Dr. Abbott's Successor.—Dr. Charles Harrington, assistant professor of hygiene at Harvard University Medical School, has been appointed to succeed the late Dr. Samuel W. Abbott as member of the State Board of Health. Formerly he was chemist for the State Board of Health. He has been teaching for 21 years in Harvard University Medical School, and for 15 years has had charge of the milk inspection of the Boston Board of Health. He is well known as a writer on hygiene and on food and drug analysis.

Hospitals in Peril.—The New England Baptist Hospital narrowly escaped a serious fire December 10. The hospital is located near the top of the steepest and highest hill in Boston, so that it was fifteen minutes after the alarm before the first engine reached there. Meanwhile the janitor and nurses, bravely working with fire extinguishers, had subdued the fire, which

had started in a drying closet. The loss was not more than $600, and none of the 30 patients was at all harmed. The fire again calls attention to the danger of all the neighboring buildings, two of which are the Charity Club Hospital and the Cushing Hospital, and the urgent need that fire apparatus be located nearby. Repeated petitions to the city government have invariably met refusal from one branch or another.

MICHIGAN.

Cornerstone Laid.—The cornerstone of the new building for the Michigan College of Medicine and Surgery, Detroit, was laid with elaborate ceremonies, December 13.

Purging Battle Creek.—In an effort to clean out the abortionists, whose work has made Battle Creek notorious, the Physicians' Business Association has ascertained that 32 unregistered practitioners were plying their trade in the city. Warrants have been sworn out for these irregulars and seven were issued on the first day.

Comparative Morbidity.—For November, 1904, compared with the average for November in the ten years, 1894-1903, smallpox, puerperal fever, cholera infantum and inflammation of brain were more than usually prevalent, and bronchitis, pneumonia, intermittent fever, diphtheria, erysipelas, remittent fever, cholera morbus and whooping cough were less than usually prevalent.

In Trouble.—Drs. John T. Hoffman and Otto T. Toepel, Detroit, coroners of Wayne County, have been asked by the governor to resign. Both are under the ban for contempt of court.——Dr. Wallace E. Newark, Charlotte, who pleaded guilty to performing a criminal operation, was fined $600, and paid the amount.——Dr. Bert H. Ling, Germfask, convicted of practicing without a diploma and fined $12, has been arrested and placed in jail on account of failure to pay the fine and costs.——Dr. Otto T. Toepel, Detroit, was fined $250 and sentenced to 30 days in the county jail for contempt of court, December 6. He will appeal.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during November at 6 places; whooping cough at 18 places; measles at 35 places; pneumonia at 50 places; diphtheria at 87 places; smallpox at 99 places; scarlet fever at 105 places; typhoid fever at 161 places, and consumption at 247 places. Meningitis was present at 1 place more; whooping cough at 6 places more; measles at 6 places more; pneumonia at 30 places more; diphtheria at 24 places, smallpox at 20 places, and scarlet fever at 23 places more; and typhoid fever at 21 places and consumption at 56 places less in 1904, as compared with the preceding month.

College Merger.—According to the Detroit *Journal* for December 8, a proposition has been made to merge the Detroit College of Medicine into the University of Michigan Department of Medicine and Surgery. It is claimed that the clinical facilities at Ann Arbor are insufficient for the third and fourth-year students, and that under the new plan the first two, or possibly the first three years' work would be done at Ann Arbor, and the last year or two at Detroit. It is understood that those in control of the Detroit College of Medicine are willing to surrender its charter to the board of regents of the university so that it will go out of existence as an independent institution. Ann Arbor papers express the sentiment there as being almost wholly against the project.

MISSISSIPPI.

Smallpox.—The physicians of Montgomery County have discovered a large number of smallpox cases, fortunately of mild type, near Stewart. Quarantine has been instituted and vaccination ordered.——Several cases are reported in Clarksdale.

Free Clinic at Biloxi.—A free clinic has been established at the Biloxi Sanatorium, to be called the Lopez Medical and Surgical Clinic, in memory of the late M. L. Lopez, who was vice-president of the sanatorium and took great interest in the institution from its inception.

Sanatorium Rebuilt.—Last spring the Biloxi Sanatorium was entirely destroyed by fire. On the site of the old building a new one has been erected and is now open. It has been built especially for sanatorium purposes, and is well equipped. Located on Mobile Bay, it has the advantage of an excellent winter climate.

NEW JERSEY.

Personal.—Dr. Frank N. Robinson, Camden, has gone for an extended visit to Los Angeles, Cal., on account of ill health.——Dr. Byron C. Pennington, Atlantic City, was recently admitted to the German Hospital, Philadelphia, suffering from uremia. He is slowly convalescing.

Work at the Cooper Hospital.—The work done at the Cooper Hospital during the month of November is as follows: Seventy-one patients were admitted to the wards; 114 were treated in the wards; 317 new patients were treated in the out-patient department, and 1,187 revisits were made.

Medical Society Election.—At the regular meeting of the Camden City Medical Society, December 6, the following officers were elected: President, Dr. Paul M. Mecrary; vice-presidents, Drs. Harry H. Sherk and Edward A. Y. Schellenger; secretary, Dr. Vernon E. De Grofft; treasurer, Dr. William H. Pratt; historian, Dr. Daniel Strock, and librarian, Dr. Joseph H. Wills.

NEW YORK.

The Boy Wonder Must Serve His Term.—John Welchers, otherwise termed "Antonius, the Boy Wonder," of Buffalo, who claimed to cure by the laying on of hands, etc., and who was convicted and sentenced to imprisonment for one year for conspiracy, will have to undergo the sentence, as the Court of Appeals has decided against him.

Crusade Against Insanitary Tenements.—The Niagara Falls Board of Health has adopted ordinances similar to those used by the Buffalo Department of Health, which will give larger power to the health board. One of the first crusades will be directed against the insanitary tenements in the so-called "tunnel" district and occupied by negroes, Italians and Hungarians, where there is an increasing amount of typhoid fever.

Sanitation in Small Places.—A conference of the local health officers throughout the state was held in Albany, December 15 and 16. An urgent appeal was made to all health officers to attend, as small places are exposed to more danger from the outbreaks of epidemics than large ones. The sanitary conditions of the smaller towns are not so carefully guarded nor the health officers so well equipped for their work as those of the cities, and these conferences are intended to awaken greater interest among local health officers.

New York City.

Personal.—Dr. Kenkichi Rokkuku, physician in the suite of Prince Fushimi, has visited Ellis Island and made minute observations of every department of the emigrant reception depot.

The Mosquito Convention.—The second annual convention of the National Mosquito Extermination Society was held in Manhattan and Brooklyn on December 15 and 16. The sessions were open to the public.

Brooklyn Hospital Incorporated.—The Samaritan Hospital was incorporated December 8. This hospital is the outgrowth of a dispensary started several years ago. Two lots have been purchased and hospital buildings will be erected as soon as the necessary funds have been raised.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 3, 378 cases of diphtheria, with 30 deaths; 326 cases of tuberculosis, with 165 deaths; 200 cases of scarlet fever, with 10 deaths; 155 cases of varicella; 85 cases of typhoid fever, with 17 deaths; 83 cases of measles, with 6 deaths, and 13 deaths from cerebro-spinal meningitis.

Tramp Steamers Suspected to Be Infected.—The British steamship *Coronation*, which arrived at quarantine December 7, had one of the crew ill with a disease resembling bubonic plague, but bacteriologic examination failed to reveal any traces of the plague.——The tramp *Coutados*, from Java, also detained because several of her crew had died of cholera on the voyage, was permitted to come to her pier, but the Chinese crew is held at Hoffman Island.

Permanent Tuberculosis Exhibit.—Dr. James E. Newcomb, in a recent address, urged most vigorously as a means of educating the public a permanent tuberculosis exhibit similar to that of Berlin, containing illustrations of the ravages of the disease, models of the breathing apparatus, showing the effect of tuberculosis on man and animals, collections of sputa receptacles gathered from various countries, disinfecting apparatus, illustrations of the methods of study of the tuberculosis bacillus, charts showing the effects of good housing in reducing the amount of the disease, etc.

Bellevue Diet Kitchen.—This week a scientific diet régime will be opened at Bellevue Hospital. The food served to the patrons will be cooked under perfect sanitary conditions and patients

will be served with the food best calculated to help them contend with the disease with which they are afflicted. There will be a separate dietary for children and adults. Hitherto there has not been much discrimination in the matter of food given the general run of patients. The establishment of the new cooking plant will not cost more than $500 and it is estimated that it will not cost more than $50 a month additional than the existing kitchen. The medical staff agrees that the proposed scientific system will benefit the patients and may tend to lessen the death rate.

The Pure Milk Crusade.—The work of the inspectors of the health department in the upstate counties has already resulted in evidence which would seem to be sufficient to convict one of the largest milk distributing companies in this city. In this case the inspectors found that skim milk was being shipped and that a considerable supply of formaldehyd was kept on the premises. Dr. Darlington says that when the evidence is complete he will revoke the license of the company. Hitherto these large companies have paid the fines and in the long run adulteration was profitable to the dealers, but if the companies are forced out of business it would prove a more serious matter. The health department is determined to make the punishment so severe that it will not pay to tamper with the milk. A number of persons charged with this offense were disposed of this week in the Court of Special Sessions in Brooklyn. The fines ranged from $5 to $100, and one offender who was unable to pay the fine went to jail for thirty days.

OHIO.

Post-Graduate School Incorporated.—Papers of incorporation were signed November 23 for the Toledo Post-Graduate Medical School. Drs. Herbert E. Noble, Addison D. Hobart, A. C. White, G. Albert Gorsuch and Alvin G. Snyder, signed the application.

Injured.—Dr. Edward W. Baehr, Cincinnati, physician for the Robinson circus, was shot and seriously wounded by a negro in Bainbridge, Ga., October 27. He has been removed to his home in Cincinnati.——Dr. John H. Rodgers, Springfield, fell down stairs at the Arcade Hotel, November 28, straining his hip.

Personal.—Dr. Harry L. Woodward, Cincinnati, has been appointed to succeed the late Dr. John E. Jones as physician to the Widows' and Old Men's Home.——The board of medical directors of the Cincinnati City Hospital has elected the following staff: Drs. Joseph Eichberg, George A. Fackler, Edwin W. Mitchell, Oliver P. Holt, Herman H. Hoppe, Frank W. Langdon, N. Pendleton Dandridge, Joseph Ransohoff, Edward W. Walker, John C. Oliver, Albert H. Freiberg, Charles E. Caldwell, August Ravogli, Charles S. Evans, Samuel E. Allen, John W. Murphy, Robert Sattler, Derrick T. Vail, William H. Taylor, Charles A. L. Reed, George M. Allen, John M. Withrow, Charles L. Bonifield, Sigmar Stark, Allyn C. Poole, B. Knox Rashford, Henry W. Bettman, Arch. I. Carson, David I. Wolfstein, John E. Griewe, William H. Crane, James W. Rowe, Frederick W. Lamb, Alfred Friedlander, Horace J. Whitacre and Frank E. Fee.——The Columbus General Hospital Company, at its meeting held November 11, elected the following officers: President, Dr. Sherman Leach; vice-president, Dr. Robert C. Tarbell; secretary, Dr. John H. J. Upham, and treasurer, E. W. Christy.

PENNSYLVANIA.

Philadelphia.

Bequests.—By the will of Rosanna Carson von Phul the Northern Home for Friendless Children and the West Philadelphia Hospital for Women receive $2,000 each.

The Philadelphia County Obstetrical Society elected the following officers: President, Dr. Richard C. Norris; vice-presidents, Drs. Wilmer Krusen and F. Hurst Maier; secretary, Dr. Frank C. Hammond, and treasurer, Dr. John W. West.

Pathologists Meet.—The monthly meeting of the Pathological Society was addressed by Dr. Victor C. Vaughan of the University of Michigan, Dr. Charles Harrington of Boston and Prof. C. B. Cochran of West Chester, chemist to the State Dairy and Food Department. The question of the relation of food preservatives to the public health was discussed. A reception followed at the University Club.

Health Report.—The deaths from all causes aggregated 453 for the week ended December 10, compared with 426 last week and 496 for the corresponding period of last year. Of the deaths, 59 resulted from pneumonia, 11 more than were caused by consumption; 48 were due to tuberculosis, 23 to cancer, 41 to heart disease, 16 to apoplexy, 33 to Bright's disease, and 85 to acute inflammation of the respiratory tract.

Site for Oncologic Hospital.—The trustees of the American Oncologic Hospital have selected a site for the institution at Forty-fourth and Chestnut streets. The building is a large brick and stone structure and will be at once equipped for use. The hospital will be opened as soon as this work is completed. The following staff has been elected: Attending physician, Dr. Boardman Reed; attending surgeons, Drs. Addinell Hewson, G. Betton Massey and Howard R. Swayne.

Personal.—Dr. John H. Musser addressed the Medical Society of the District of Columbia, Washington, on "The Symptomatology of Arteriosclerosis," November 18. A reception was given in his honor by the society in the evening.——Dr. John B. Chapin, superintendent of the Pennsylvania Hospital for the Insane, who recently fell and sustained a fracture of the right wrist, is gradually improving.——Dr. Thomas G. Ashton has been appointed adjunct professor of medicine in the Department of Medicine of the University of Pennsylvania.

November Hospital Reports.—There were 289 new patients admitted to the wards of the Pennsylvania Hospital; 1,254 new patients were treated in the dispensary, 4,663 visits were made to the different dispensaries of the institution.——Frankford Hospital admitted 25 new patients to the wards and treated 805 patients in its dispensaries.——During the month 5,315 patients were treated in the Medico-Chirurgical Hospital.——There were 94 patients admitted to the Germantown Hospital and 1,162 were treated in the dispensary.——St. Agnes' Hospital admitted 154 patients to the wards and 3,506 were treated in the dispensary.——At St. Mary's Hospital 151 patients were admitted to the wards and 2,610 were treated in the dispensaries.

TENNESSEE.

New Knoxville Hospital.—Plans have been accepted and contracts awarded for the new Tennessee Medical College Hospital, to be erected at a cost of $30,000.

Thrice Arrested.—Dr. James L. Jackson, Chattanooga, has been thrice arrested and thrice fined for selling cocain unlawfully. He paid the accumulated fines and costs, amounting to $281.

Personal.—Dr. Henry J. Kelso, for several years secretary of the Knoxville Board of Health, has resigned and Dr. William R. Cochrane has been elected his successor.——Major Frank P. Robinson, chief surgeon at the Soldiers' Home, Johnson City, has resigned.

Smallpox.—On account of the prevalence of smallpox in Mount Pleasant, a proclamation was issued December 1 requiring every one to be vaccinated within three days and providing fine for non-compliance. The smallpox in the state is reported by Dr. J. A. Albright, secretary of the State Board of Health, to be confined practically to Mowry and Dyer counties.

WISCONSIN.

Must Pay for Alleged Mistake.—In the case of Paul Parkhurst against Drs. Thomas W. Nuzum and Arick Sutherland of Brodhead, where the complainant claimed $10,000 damages on the ground that the defendants had operated on the wrong foot, thereby crippling him for life, the jury awarded the complainant $10,000.

Personal.—Dr. Henry E. Twohig, Fond du Lac, has returned from Europe and will locate in Marinette.——Dr. D. J. Twohig has located in Fond du Lac.——Dr. Charles A. Hayes, Chippewa Falls, has been appointed superintendent of the Chippewa County Asylum, vice Dr. Philo E. Lindley.——Dr. H. Schafer, formerly of Kiel, has returned from Europe and has located in Appleton.

Society Elects Officers.—At the annual meetng of the Waukesha County Medical Society, held in Waukesha December 3, the following officers were elected: Dr. Henry G. B. Nixon, Hartland, president; Dr. Benjamin U. Jacob, Waukesha, vice-president; Dr. Maybelle M. Park, Waukesha, secretary; Dr. William B. Campbell, Menominee Falls, treasurer; Dr. Thomas Tomelty, Big Bend, censor, and Drs. Albert J. Hodgson, Waukesha; Michael R. Wilkinson, Oconomowoc, and Laurel E. Youmans, Mukwonago, committee on health and legislation.

GENERAL.

Going to Panama.—About 75 delegates to the fourth Pan-American Medical Congress at Panama, January 2, will sail from Baltimore December 27 on the steamer *Athos*, which has been specially chartered for this purpose.

Use of Adrenalin to Conceal Trachoma.—Officers of the Public Health and Marine-Hospital Service have noticed that on

overting the eyelids of immigrants in several cases a peculiar blanched appearance was observed. On investigation this proved to be due to the use of adrenalin. It was found that in mild cases of trachoma this drug will obliterate all traces of the disease for about one-half hour.

Neurology at Pan-American Congress.—An invitation is given to all members of the profession interested in neurologic and psychologic medicine to attend the neurologic section of this congress, Jan. 2-6, 1905, at Panama, to present papers or other communications in the line of the section's work, by Dr. C. H. Hughes, 3857 Olive street, St. Louis, secretary of the section of nervous and mental diseases.

Hawaiian Medical Association.—The annual session of the Hawaiian Territorial Medical Association was held at Honolulu, Nov. 20-22, 1904. The session was well attended. The following officers were elected for the ensuing year: President, Dr. J. T. McDonald; vice-president, Dr. J. H. Dinnegar; secretary-treasurer, Dr. St. D. G. Walters; executive committee, Dr. J. T. McDonald, Dr. J. H. Dinnegar, Dr. St. D. G. Walters, Dr. H. C. Sloggett, Dr. George W. Herbert.

Health of Manila.—The report of the Board of Health for the Philippine Islands for August states that there were 535 births in the city of Manila during that month. There were 1,032 deaths of residents and 68 deaths of transients; 344 of this number died without medical attention. Seven hundred and eight of the total number of deaths occurred in children under 2 years of age, and two of the deaths were of persons whose ages were given as 120 and 109 years respectively. During the month there were 4 deaths from smallpox and 7 from plague.

International Medical Congress.—Dr. J. H. Musser, president of the American Medical Association, at the request of the secretary of the International Medical Congress, which meets in Lisbon in 1906, and on approval of the House of Delegates, has appointed the following members of the American Committee of Arrangements:

Drs. Frank Billings, Chicago; Herman M. Biggs, New York; Herbert L. Borell, Massachusetts; William T. Councilman, Boston; Wm. H. Carmalt, Connecticut; Richard C. Cabot, Massachusetts; N. S. Davis, Jr., Illinois; Chas. H. Frazier, Philadelphia; R. H. Fitz, Massachusetts; W. E. Fischel, Missouri; Chas. Lyman Greene, Minnesota; Ramon Guiteras, New York; H. A. Hare, Pennsylvania; L. Hektoen, Chicago; Edward Jackson, Denver; E. J. Janeway, New York; A. Jacobi, New York; George B. Johnston, Richmond, Va.; W. W. Keen, Philadelphia; Howard A. Kelly, Baltimore; Chas. Kollock, South Carolina; L. S. McMurtry, Louisville, Ky.; James H. McBride, California; A. T. McCormack, Bowling Green, Ky.; K. A. Mackenzie, Portland, Ore.; John Herr Musser, Philadelphia; J. B. Murphy, Chicago; R. Matas, New Orleans; William Osler, Baltimore; Chas. Powers, Colorado; J. B. Roberts, Pennsylvania; W. L. Rodman, Pennsylvania; M. H. Richardson, Boston; Chas. A. L. Reed, Ohio; H. M. Sherman, San Francisco; Frederick C. Shattuck, Boston; Geo. H. Simmons, Chicago; Chas. G. Stockton, New York; Geo. Sternberg, Washington, D. C.; Victor Vaughan, Ann Arbor; John A. Witherspoon, Tennessee; J. Collins Warren, Massachusetts; J. C. Webster, Chicago; Wm. H. Welch, Baltimore; John A. Wyeth, New York.

The Surgeon Generals of the Army, Navy and United States Public Health and Marine-Hospital Service.

The presidents of the American Ophthalmological, Otological, Gynecological, Physiological and Pediatric societies.

The presidents of the American Dermatological, Laryngological, Surgical, Climatological, Neurological, Medico-Psychological and Orthopedic associations.

The presidents of the Association of American Anatomists, Association of American Physicians, American Association of Genito-Urinary Surgeons, American Association of Pathologists and Bacteriologists, New York Academy of Medicine, College of Physicians, Philadelphia, Cook County Medical Society, Chicago, and the Society of Medical Improvement, Boston.

Panama Canal Employes.—We have received the announcements of the U. S. Civil Service Commission concerning the examinations for appointments at the Panama Canal. A number of positions, including sanitary officers, are excepted from the necessity of examination. These sanitary officers, we understand, are chiefs and probably all surgeons under them are required to pass competitive examinations. Announcement is made of examinations Jan. 18, 1905, for surgeons, physicians, pharmacists, hospital internes and trained nurses. These examinations will be held at the 184 cities of the country at which civil-service examinations are regularly held. Some of the details are as follows:

SURGEON.—Age limit, 25 to 50 years; salary, $250 per month. Examination in anatomy, 15 per cent.; surgical bacteriology, 5 per cent.; surgical pathology and diagnosis, 15 per cent.; surgical practice, 40 per cent.; surgical gynecology, 5 per cent., and practical experience, 30 per cent. This element will be rated on the statements made in the application and accompanying vouchers. Special attention will be given to the quality of the applicant's experience, and applicants who have had extensive work in large hospitals will receive special credit.

It is the desire of the Isthmian Canal Commission to appoint in this position only surgeons of thorough training and wide professional experience.

PHYSICIAN.—Age limit, 25 to 50 years; salaries, $150, $200 and $250 per month. Examination in letter-writing, 5 per cent.; anatomy, 5 per cent.; therapeutics, 5 per cent.; physical diagnosis (including questions relating to tropical diseases), 25 per cent.; general pathology and practice (including questions relating to tropical diseases), 25 per cent.; bacteriology and hygiene, 5 per cent.; obstetrics and gynecology, 5 per cent.; practical experience, 25 per cent.

The element of practical experience will be rated upon the statements made in the application and accompanying vouchers. Special attention will be given to the quality of the applicant's experience, and applicants who have had experience in hospitals, particularly in the treatment of tropical diseases, will receive special credit. Only those who have had extensive hospital experience and are familiar with the treatment of tropical diseases, will be selected for appointment to the highest salaried positions. Promotions may be made in the discretion of the Isthmian Canal Commission from the lower to the higher positions in this grade.

These examinations are open to all citizens of the United States who comply with the requirements. Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at the places mentioned in the accompanying list, for application form 1312. No person will be appointed for service on the Isthmus who is not physically sound and in good health. No application will be accepted unless properly executed and filed with the commission at Washington. The exact title of the examination desired should be used in the application. As examination papers are shipped direct from the commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers. Further information concerning conditions of employment under the Isthmian Canal Commission is given as follows:

LENGTH OF SERVICE.—The construction of the Panama Canal may extend throughout a time-period of eight or more years, according to the details of the project yet to be adopted.

OPPORTUNITIES.—The civil service of the Isthmian Canal Commission offers excellent opportunities to qualified persons, both in the matter of salaries and promotion. Under the operation of the civil service law it is contemplated that promotions will be made on the basis of merit from the lower to the higher positions.

MEDICAL ATTENDANCE.—Medical attendance, medicines, and care at hospitals when sick, are furnished to the employes of the Isthmian Canal Commission without cost. Well-equipped hospitals will be maintained at Ancon, adjacent to Panama, and at Colon. In meritorious cases sick leave on pay may be allowed, in addition to the regular leave of absence, not to exceed thirty days for employes who are from the United States, or fifteen days for employes who are residents of the Isthmus.

ACCOMMODATIONS FOR EMPLOYES.—The Isthmian Canal Commission furnishes quarters to its American employes, or at its option in lieu thereof commutation, which has tentatively been fixed at 8 per cent. of salary. The commission proposes to maintain a civil commissary department on the Isthmus, which is soon to be established and the advantages of which are to be made available to the salaried employes of the commission.

TRANSPORTATION TO THE ISTHMUS.—The commission furnishes its employes free transportation to the Isthmus from either New York, New Orleans, or San Francisco, and, also, free return transportation on completion of satisfactory service.

LEAVE OF ABSENCE.—The employes of the Isthmian Canal Commission are allowed six weeks' leave of absence annually on full pay. This leave of absence is not granted until after eight months of satisfactory service. In visiting the United States on leave, employes and members of their immediate family are granted special rates to the above-named ports. (The prevailing special rates are $25 between New York or New Orleans and Colon, and $70 between San Francisco and Panama.) The special rates also apply when members of the family of an employe accompany him to the Isthmus.

All inquiries concerning examinations for competitive positions under the Isthmian Canal Commission should be addressed to the United States Civil Service Commission, Washington, D. C. Further communication relative to service, situation, climate, and conditions on the Isthmus should be addressed to the Isthmian Canal Commission, Washington, D. C., by whom the foregoing details have been furnished.

CANADA.

Personal.—Dr. A. M. Campbell has been appointed superintendent of the Winnipeg General Hospital in succession to Dr. Halpenny, who has taken up private practice.

Toronto Home for Incurables.—According to the thirtieth annual report 111 patients are in that institution, 38 having been admitted during the past official year; 36 deaths occurred and 12 patients left the institution very much improved. Paralysis and rheumatism affects many inmates. Of the 111 in the institution, 39 are paralytics and 27 have rheumatism.

District of St. Francis Medical Association.—The regular meeting of this association was held in Sherbrooke, Quebec, November 9, when the following officers were elected: President, Dr. F. J. Austin, Sherbrooke; vice-president, Dr. S. A.

Banfill, East Angus; secretary-treasurer, Dr. E. J. Williams, Sherbrooke; council, Dr. J. O. Camirand, Dr. L. C. Bachand and Dr. R. A. D. King.

New Brunswick Provincial Hospital.—A special commission has just completed the examination of all the inmates of the New Brunswick Hospital for the Cure of Nervous Diseases. The institution has been overcrowded for some time, there being 554 patients in the main building. The object of the commission was to effect the removal to outside homes of those patients who were harmless and thus to leave more room for those acutely insane. The commission consisted of the new superintendent, Dr. J. V. Anglin, Dr. G. A. B. Addy and Dr. A. F. Emery, all of St. John. Dr. Anglin will seek reform in the method at present in vogue in the admission of patients to this institution. Hereafter patients will have to wait until they receive instructions from the superintendent that they can be admitted.

Hamilton (Ontario) General Hospital.—The Hamilton General Hospital wants to erect a new wing and has appealed to the Ontario government for $50,000. The governors thought they had a claim on the government, because it had offered $100,000 to the Toronto General Hospital. They stated that their annual grant only amounted to $2,000, the balance of the maintenance fund being raised by the taxes of the ratepayers, and this annually amounted to $30,000. The premier pointed out to the deputation that the succession duties brought into the treasury of the province about $250,000 annually, to which the government added $850,000, and the $1,100,000 thus obtained went back to the hospitals and other charitable institutions. It was true that the government had promised to aid the Toronto General Hospital to the extent of $100,000, but the proposed grant was entirely for medical educational purposes.

Handsome Gift for New Alexandra Hospital, Montreal.—The Alexandra Hospital in connection with the Montreal General Hospital, or in connection more particularly with the Protestant hospitals of Montreal, for the care of contagious and infectious diseases, should have been ready for occupation by the first of next year, but beyond securing a site very little advance has been made. Recently a public meeting was held in Montreal following a conference between the trustees of the hospital and the hygienic committees of the city council for the purpose of eliciting public sympathy and aid in the prosecution of the work. Lack of funds prohibited the trustees from carrying out the construction of the hospital; but, as $62,500 is now subscribed, the construction of the hospital will proceed at once; it probably will be ready for patients by September, 1905. Toward the building fund Mr. James Ross, Montreal, contributed $25,000. The approximate cost of the institution, including the land, will be in the neighborhood of $200,000.

FOREIGN.

Plague in London.—A member of the crew of the steamer *Weybridge* from the River Plate, which arrived in London November 30, was found by bacteriologic examination to be suffering from plague.

Bubonic Plague in Argentine Republic.—The existence of bubonic plague in Salto has been officially declared. The Public Health Reports state that the government of the republic has ordered prompt and vigorous sanitary measures to be enforced, intending, should it become necessary, to close public schools and churches. The minister of war has ordered the troops in that district to aid in enforcing hygienic measures.

German Anti-Charlatan Society.—Drs. G. Flatau and C. Reisig have been publishing since October, 1903, a periodical entitled *Hygienisches Volksblatt*. It is the official organ of the *Deutschen Gesellschaft zur Bekampfung des Kurpfuschertums*, and is designed to enlighten the public in matters of hygiene and to warn against irregular methods. The name has been changed to *Hygienische Blätter* as the periodical enters on its second year.

Popular Vote on Restriction or Non-Restriction of Irregular Practices.—Our exchanges state that the canton of Zurich, Switzerland, is soon to cast a popular vote on the question whether all restrictions to the practice of medicine should be removed. Professor Krönlein and the members of the profession generally have been earnestly at work to prevent such a lapse from the higher ideals of civilization and the lay press has seconded their efforts. As the question is to be decided by popular ballot, there is considerable apprehension in regard to the outcome.

Awarding of the Five Nobel Prizes.—The cable brings word from Stockholm that the Nobel prizes for 1904 were duly awarded on the anniversary of the birthday of the founder of the prizes, December 10. The prize in medicine was bestowed on Prof. J. P. Pawlow of St. Petersburg, whose recent research on the physiology of the digestive processes has revolutionized many of our conceptions and established a scientific basis for empirical experiences and observation. An institute was erected at St. Petersburg exclusively for his experimental work, and it is the Mecca to which many a scientific pilgrimage has been made during the last few years. The twenty-fifth anniversary of his entering on his professional career was celebrated last February, when a fund was endowed in his name for a prize for research in physiology. The prize for chemistry was given to Sir William Ramsay, professor of chemistry at London. The prize for literature was divided between a French poet and a Spanish dramatist. The peace prize was conferred on the Institute of International Law, and the prize for physics on Lord Rayleigh, professor of natural philosophy at the royal institute. The particulars of this great endowment, founded by the discoverer of dynamite, were given in THE JOURNAL, vol. xxxix, page 1600, and elsewhere.

Correspondence.

Graduates of Medical Schools.

WASHINGTON, D. C., Dec. 1, 1904.

To the Editor:—My attention has been directed to your note on page 1307 of THE JOURNAL, Oct. 29, 1904, on "Graduates of Medical Schools," in which the deductions drawn from the result of state board examinations in 1903, from the standpoint of a Philadelphian, are quoted. It is true that taking the statistics collectively the showing is very favorable to the Philadelphia medical schools, but is it really fair to individual schools to institute such a comparison?

Reference to the table on page 515 shows, for example, that the percentage of failures of Washington graduates varied from 0 to 30, and that the percentage of failures among graduates of Baltimore medical schools varied from 0 to 55.8. The deductions of the Philadelphian, if applied to the graduates of the New Orleans medical schools, would show that the percentage of failures was 71.4, when, as a matter of fact, one of the two schools graduated all the unsuccessful candidates.

I am of the opinion that valuable conclusions can be drawn from the results of the state board examinations as to the efficiency of the medical schools, when accurately reported and analyzed, but it is obviously our duty to study the records before condemning or recommending any particular school to prospective students. GEO. M. KOBER, M.D.

[EDITOR'S COMMENT.—Our correspondent probably realizes that the note referred to was copied from another publication. The table from which the information was derived, and which appeared in THE JOURNAL Aug. 13, 1904, gave the facts concerning individual colleges, but the writer of the item referred to grouped certain colleges in the same city.]

Care of a Diphtheria Epidemic.

MT. WASHINGTON, MD., Dec. 7, 1904.

To the Editor:—In THE JOURNAL Dec. 3, 1904, p. 1709, it is stated that diphtheria is prevalent in East Coventry and in the northern section of Chester County. I write this in order that the medical profession of that community may profit by our experience here and so be enabled to stamp out the disease.

In this community of 1,400 inhabitants this terrible disease has been epidemic for the past 16 months. The disease has attacked all classes. Last winter the school in the immediate neighborhood was closed two months on account of this malady.

At the beginning of this school term it was thought that the trouble might be gotten rid of by the public schools. The trustees of our school, one of whom is our most eminent physician, consulted the school board and the county commissioners and made special arrangements with the State Board of Health for the taking of the cultures from the throats of the pupils of this school and of another school about two miles distant, where the disease had now got a foothold, and caused the school to be closed. The cultures have been taken nine times and in one school the percentage was 3.2 more than in the schools of New York City. In the other school, where the attendance was very much smaller owing to the number of cases in the

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school, the percentage ranged from 5 to 25, which was a very large percentage.

When cultures from a child's throat were found to be positive, that child was sent home, and also other children of the family if there were any, and not allowed to return until cultures were declared negative. This, of course, decreased the attendance. There were some parents who did not approve of the method and were opposed to it and were trying to have it stopped when the county commissioners stopped it. If it were possible for the physicians of the locality above mentioned to make some such arrangements, I think that they could stamp out the disease in a short time. JOSIAH S. BOWEN, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

SPECIFIC TREATMENT FOR TUBERCULOSIS.

NEW ORLEANS, Dec. 5, 1904.

To the Editor:—A recent article in THE JOURNAL (November 26) on the use of serums in tuberculosis and the discussion that followed, shows that up to the present the administration of toxins and antitoxins in the treatment of this disease has been unsatisfactory. Antitoxins have been discarded and, with the large majority of the profession, tuberculin and similar preparations have little vogue. That the serum treatment of pulmonary tuberculosis has so far been futile may be due to the fact that the well-established disease is nearly always complicated with streptococcal or staphylococcal infection, or both. There are different families of staphylococci and of streptococci, and this difference may extend to the tubercle bacillus itself. This suggests that in so long drawn out a condition as chronic tuberculosis an antitoxic serum might be obtained exactly adapted to each individual case by using the blood of a horse immunized to the mixed infection of the secretion obtained from the patient himself. 2. This would certainly be an expensive method of treatment, but if there is anything in the antitoxin treatment of disease, theoretically, at least, an effective one. And there are those who can afford not to consider expense when the life of one they love is in the balance. A. NELKEN.

ANSWER.—Theoretically Dr. Nelken's proposition sounds well enough and, granting the correctness of his premises, the resulting serum should be effective. Closer examination of the problems involved shows, however, so many difficulties in the way that the practical use of this treatment is very remote indeed. Extensive experiments in immunization of horses and other animals with tubercle bacilli and streptococci would have to be carried out in order to determine under what conditions potent antiserums are obtainable, if at all. By the way, right at this point it may be well to emphasize that it is not strictly correct to speak of all antiserums as antitoxic serums. In the case of many pathogenic organisms, e. g., typhoid bacillus, dysentery bacillus, streptococcus, it has not yet been possible to obtain true antitoxic serums, because these organisms so far as we know now do not owe their pathogenic effects to toxins in the strict sense, namely, readily diffusible toxic substances with which it is possible to produce by immunization specific antitoxins. So far antityphoid and antidysenteric serums are essentially complex bactericidal serums, while the mechanism of action of antistreptococcus serum, so far as it has been determined, in animal experiments, is perhaps even still more complex. In the interest of clearness it is therefore best to speak of antitoxic serums only when we know that it actually concerns antitoxins in the limited scientific sense. Those who are interested will find these distinctions more fully outlined in Dr. Rickett's article in THE JOURNAL, May 21, 1904, p. 1336, entitled "Our Serotherapeutic Measures." Returning to Dr. Nelken's suggestion, we would say again that the only way to proceed is to experiment. First, it must be shown unequivocally that it is possible to obtain antitubercle and antistreptococcus serums, whatever their nature, by means of organisms derived from human beings. Secondly, should the results of these experiments warrant further effort, work should then be directed to shorten to the greatest possible extent the time intervening between the patient's coming under observation and the production of the serums, so that the disease could be attacked at the earliest and hence most favorable period possible. And lastly would come the actual trial of the treatment in carefully selected cases under simple but favorable and easily reproducible conditions so that it might be possible by comparison to form a definite idea as to the effects of the treatment.

RECIPROCITY.

FINDLAY, OHIO, Dec. 12, 1904.

To the Editor:—1. Do Ohio and Pennsylvania state boards reciprocate? 2. When will the good time of emancipation come to the physicians of this great and goodly land, giving them perfect freedom to go wheresoever they will after having once been pronounced legally qualified to practice in any one of the states? 3. Could not the American Medical Association and other societies secure a federal law granting to all physicians, legally qualified, the right to practice anywhere in the country? 4. Would not a national board of licensure be more effective, with state boards subordinate, in bringing about all the results aimed at by the several states and in much more quickly securing those results?

W. C.

ANSWER.—1. No. 2. When we get more uniformity in our medical laws or uniformity in examinations. The states having a high standard will never reciprocate with those having a low standard of entrance requirements. The states having a low standard will not accept a certificate of a board whose standard is high, because the latter will not accept that of the former. 3. No, the matter comes under the police powers, and this, according to the constitution of the United States, rests with the individual states. 4. Yes, but only a voluntary board could exist; at least as a legal institution, for the reasons given in reply to question 3.

BURNS FROM HOT-WATER BOTTLES—OVARIOTOMY FOR EPILEPSY.

CHICAGO, Dec. 5, 1904.

To the Editor:—Have any articles appeared in THE JOURNAL or elsewhere or in any of the text-books on surgery regarding accidental burns produced by hot-water bottles or rubber bags of hot water, when applied to a patient after being operated on? 2. Can a patient be burned by either of these forms of bottles containing hot or warm water when applied externally to a blanket that envelops a patient? 3. If, so, which form of bottle would be most likely to produce a burn? 4. Are there on record well-authenticated cases resulting in the cure of epilepsy in the female, without complications, in which the operation of clitoridectomy or ovariotomy has been performed? 5. Are either of these operations justifiable in a typical or simple case of epilepsy without complications, or are either of these operations frequently advised or performed for the relief or cure of this disease? LISTON HOMER MONTGOMERY.

No. 92 State St.

ANSWER.—1. Yes; cases have been reported briefly, but we are unable to give names of references in which reports appeared. Reports of these cases may be found in hospital and in other records. 2. Yes; serious and even fatal results may occur. 3. A bottle which may be carried by straps or handles so that the excessive heat is not noticed in handling it. Further, a bottle of shape or kind as to rest more closely against the patient. 4. No. 5. No.

BURLESQUE NUMBER OF THE WOCHENSCHRIFT.

CHARLOTTESVILLE, VA., Dec. 5, 1904.

To the Editor:—Kindly refer me to some one in this country from whom I can get a copy of the burlesque number of the *Münchener medicinische Wochenschrift* and the price.

THOMAS J. BUTLER, Univ. of Va., P. O.

ANSWER.—This burlesque is published annually on the anniversary of the Munich Medical Society. The present number is the seventh thus issued, the anniversary being the seventieth of the society. It is expressly stated that this burlesque is not for sale separately, and that it is not even sent to subscribers for the *Wochenschrift* unless they are medical men. Consequently the libraries, like the Newberry Library at Chicago do not receive this 20-page burlesque number unless presented by some medical friend, as received on his private subscription. Dr. B. Spatz is the editor, Arnulfstrasse 26, Munich, Germany. In commenting on a previous number of the burlesque, THE JOURNAL remarked that its fun almost repaid one for the study of German, and the present number is even better than its predecessors. Perhaps some subscriber who sees this will loan our correspondent his copy.

PHYSICIAN MAY OMIT CHARGE FOR EXAMINING ANOTHER PHYSICIAN.

MILWAUKEE, Dec. 7, 1904.

To the Editor:—1. Is it right for one physician examining another physician for life insurance to give the applicant credit, with the knowledge and consent of the company, for the usual examination fee? 2. Can the examiner logically argue that the company pays him, when, as a matter of fact, the company simply fixes the rate high enough to cover this fee?

RALPH ELMERGREEN, M.D.

ANSWER.—1. Yes. 2. He can. He gets the fee from the company.

BOOKS ON URINALYSIS.

——, PA., Dec. 5, 1904.

To the Editor:—Will you kindly inform me regarding the most practical books on the clinical examination of the urine and blood? I want a book which treats not only of all the methods of examination, but the significance of each abnormal element when present, etc. T. H.

ANSWER.—Ewing's Clinical Pathology of the Blood; Cabot's Guide to Clinical Examination of the Blood; Ogden's Clinical Examination of Urine and Urinary Diagnosis; Croftan's Urinology.

FEE FOR BLOOD COUNT.

ESCANABA, MICH., Dec. 8, 1904.

To the Editor:—Will you kindly tell me the usual fee for a blood count, i. e., the leucocytosis only? M. P. FENELON.

ANSWER.—$5 to $10.

Marriages.

Doc C. HOYT, M.D., to Miss Belle Claire Chamberlain, both of Chicago, December 1.

GRACE MAE HARCOURT, M.D., to Jonathan Hoag, Jr., at Baltimore, December 8.

JOHN DARST, M.D., Houston, Texas, to Miss Julia Holmlund of Mason City, Iowa.

CHARLES W. ZELLER, M.D., Defiance, Ohio, to Miss Therese Cunningham, October 14.

VINCENT SHEPHERD, M.D., to Miss Marium Palmer, both of Dupont, Ind., November 30.

FELLOWES, DAVIS, JR., M.D., to Miss Gertrude Agostini, both of New York City, December 7.

CHARLES MACDONALD, M.D., Chicago, to Miss Clara Middleton of Oak Park, Ill., December 1.

CORNELIUS D. MACKEY, M.D., to Mrs. Mary Louise McManamy, both of Chicago, November 24.

L. A. VANDERHOOF, M.D., Byron, Ill., to Miss Vergne M. Culver of Lawrence, Mich., November 24.

WILLIAM Y. WARD, M.D., to Miss Maude Alice Peterson, both of Duplex, Texas, November 24.

RANDOLPH TUCKER SHIELDS, M.D., to Miss Ellen Randolph Page, at Winchester, Va., December 7.

THOMAS H. CULHANE, M.D., Peoria, Ill., to Miss Zana May Eastman of Chicago, at Ottawa, Ill., November 23.

WILLIAM LESTER SOUTHER, M.D., Rocky Hill, Ky., to Miss Ethel Pearl Jones of Chattanooga, Tenn., December 7.

FREDERICK ERNEST SCHACHT, M.D., Burlington, Wash., to Miss Sophia Gloria Wiese of Minneapolis, Minn., at St. Louis, November 26.

Deaths.

Webster Bodine Lowman, M.D. Jefferson Medical College, Philadelphia, 1867, a member of the American Medical Association; vice-president in 1886, and president in 1899 of the Medical Society of the State of Pennsylvania; one of the organizers of the Cambria County Medical Society, its secretary for several years, and three times its president; surgeon to the Pennsylvania System and the Cambria Steel Company since 1876, to the Lorain Steel Company since 1888; surgeon to the Cambria Hospital since 1884; one of the incorporators of the Conemaugh Valley Memorial Hospital Association, and consulting surgeon to the hospital, one of the most prominent surgeons of western Pennsylvania, died at his home in Johnstown, December 5, from chronic nephritis, after an illness of about one year, aged 63.

William E. Carroll, M.D. College of Physicians and Surgeons in the City of New York, 1884, of Newark, N. J., a member of the American Medical Association, Medical Society of the State of New Jersey, Essex County Medical Society and Newark Medical Society; surgeon to the Woman's Hospital, Newark, and one of the most prominent physicians in the city, died at St. Michael's Hospital, December 2, from pneumonia, after an illness of one week, aged 57.

John T. Wills, M.D. Kentucky School of Medicine, 1890, a member of the American Medical Association, and the Denver City and County Medical Society; one of the founders of the Bank of Grand County, Colo., proprietor of the Sulphur Springs Mercantile Company, and county judge of Grand County, died at his home in Sulphur Springs, December 2, from consumption, aged 44.

Martin L. Gerould, M.D. Harvard University Medical School, Boston, 1866, acting assistant surgeon United States Navy during the Civil War, died at his home in Kirkwood, Mo., December 4, from heart disease, after an illness of five years, aged 63.

Louis J. Steuber, M.D. Rush Medical College, Chicago, 1891, formerly of Lima, Ohio, but recently appointed chief medical officer of a sanitarium at Sour Lake, Texas, was found dead in his bed in San Antonio, Texas, December 8, from heart disease, aged 36.

Carlos L. Chambers, M.D. Rush Medical College, Chicago, 1882, of Kasson, Minn., a member of the American Medical Association, died in a hospital at Minneapolis, December 6, after an operation.

Nelson S. Witting, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1870, of Marinette, Wis., died at a sanitarium in Oshkosh, Wis., after a long illness, aged 71.

Wilford Hickham, M.D. Medical College of Indiana, Indianapolis, 1883, died at his home in Spencer, Ind., November 23, from disease of the stomach, after an illness of three weeks, aged 46.

Caswell J. Graves, M.D. Transylvania University Medical Department, Lexington, Ky., 1848, died suddenly from angina pectoris at his home near Payne's Depot, Ky., December 4, aged 77.

Tobias Jurim, M.D. Vienna, Austria, 1894, of New York City, died at the home of his father-in-law in New York City, December 7, from carbolic acid, taken with suicidal intent, aged 33.

Claude H. Burke, M.D. University of Virginia Medical Department, Charlottesville, 1896, of Burketown, Va., died in Abiquiu, N. M., November 30, from tuberculosis, after a long illness.

John T. McColm, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1877, died at his home in Gravity, Iowa, from cerebral hemorrhage, November 27, after an illness of three days.

James E. McClellan, M.D. Long Island Medical College Hospital, Brooklyn, N. Y., 1868, died at his home in De Ruyter, N. Y., November 24, from diabetes, after a long illness, aged 68.

John Davis, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1863, died at his home in Gomer, Ohio, December 4, after an illness of 13 days, aged 67.

Charles O. Belden, M.D. College of Physicians and Surgeons in the City of New York, 1882, of Litchfield, Conn., died at the Hopeworth Sanitarium, Bristol, R. I., November 27, aged 46.

Nelson J. Bird, M.D. Faculty of Medicine of Queen's University, Kingston, Ont., 1860, of San Francisco, died suddenly from acute gastritis in Fresno, Cal., December 2, aged 71.

Dennis O'Donoghue, M.D. Medical College of Alabama, Mobile, 1874, died at his home in Charlotte, N. C., December 3, from pneumonia, after an illness of one day, aged 74.

William E. Sitzer, M.D. Trinity Medical College, Toronto, Ont., 1894, died at his home in Ida, Mich., December 6, from pneumonia, after an illness of one month, aged 36.

Martha Cornelia Holmes, M.D. Women's Medical College of Pennsylvania, Philadelphia, 1886, died at her home in Waterbury, Conn., December 5, after a short illness.

William H. Warder, M.D. Rush Medical College, Chicago, 1892, fell dead on the sidewalk in front of his residence in Chicago, December 12, from heart disease.

Charles Wilbur Edgington, M.D. Starling Medical College, Columbus, 1895, died at his home in West Union, Ohio, from tuberculosis, November 27, aged 37.

B. Thomas Marshall, M.D. St. Louis Medical College, 1865, died at his home in Woodville, McCracken County, Ky., December 8, from paralysis, aged 65.

Andrew J. McGaughy, M.D. University of Louisville Medical Department, 1884, died at his home in Linton, Ind., November 29, from typhoid fever, aged 49.

Asa A. Bennett, M.D. Philadelphia, 1861, died at the home of his brother in Roscoe, N. Y., from asthma, after a long illness, November 19, aged 69.

Calvin S. Acker, M.D. Rush Medical College, Chicago, 1885, of Arkansas City, Kan., died at his home in Kay County, December 8, from consumption.

Joseph Fuqua Bass, M.D. Jefferson Medical College, Philadelphia, 1860, died at his home in Richmond, Va., December 6, after a long illness, aged 62.

William J. Proctor, M.D. Trinity Medical College, Toronto, Ont., 1892, died recently at the Kindred Hotel, Valley City, N. D., after a brief illness.

George Gordon Kyle, M.D. Starling Medical College, Columbus, Ohio, 1880, died suddenly at his home in Riverside, Cal., November 29.

Hugo W. Kohler, M.D. Marion-Sims College of Medicine, St. Louis, 1892, died at his home in St. Louis, Mo., December 5, aged 40.

George N. Lowe, M.D. Northwestern University Medical School, Chicago, 1887, died recently at his home in Fort Pierre, S. D.

Joseph C. Anderson, M.D. Ohio, 1873, died at his home in Cleveland, December 5, from pneumonia, aged 58.

Benjamin H. Thurman, M.D. Georgia, 1883, was murdered near his home in Cheraw, S. C., November 29.

Kittie Waldo Higgins, M.D. Illinois, 1901, died at her home in Denver, Colo., December 4.

Deaths Abroad.

R. Langerhans, M.D., author of numerous works on pathology, died at Berlin, November 21, aged 45. He was Virchow's assistant from 1885 to 1894, and since then has been prosector at the Moabit Municipal Hospital.

K. Stellwag von Carion, M.D., the well-known ophthalmologist at Vienna, died there November 22, aged 81. He has published numerous manuals and other works on his specialty, and was professor of ophthalmology until retired on reaching the age limit. His name is connected with a sign for goiter, etc.

Book Notices.

A HAND-BOOK OF SURGERY. For Students and Practitioners. By Frederick R. Griffith, M.D., Surgeon to the Bellevue Dispensary, New York City; Assistant Surgeon at the New York Polyclinic School and Hospital. 12mo. Volume of 579 Pages, Containing 417 Illustrations. Philadelphia, New York, London: W. B. Saunders & Co. 1904. Flexible Leather, $2.00 net.

This book is intended to serve as a working guide in surgery for both the student and the general practitioner. It outlines briefly and in a systematic way the principles and practice of surgery, giving the essentials, as a rule, with extreme conciseness and commendable clearness.

REGIONAL MINOR SURGERY, Describing the Treatment of Those Conditions Daily Encountered by the General Practitioner. By George Gray Van Schaick, M.D., Consulting Surgeon to the French Hospital, N. Y. Cloth. Pp. 226. Price, $1.50. New York: International Journal of Surgery Co.

This little handbook discusses the treatment of those conditions which are daily encountered by the general practitioner and which, while comparatively trivial, may by careless or bad treatment result in the gravest possible conditions. The book well fulfills the promise of the preface, and that it is of value to the general practitioner is evidenced by the necessity of a second edition in so short a time after the appearance of the first.

EXAMINATION OF THE URINE. By G. A. de Santos Saze, M.D., Pathologist to the Columbus Hospital, New York City. Fully Illustrated, Including 8 Colored Plates. Flexible Leather. Pp. 391. Price, $1.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

Undoubtedly this manual states well the principal facts in regard to examination of the urine, but it is not apparent that its author has written it because he had anything new to tell or because old facts and principles have been considered from new or unusual points of view. There is a short chapter on "The Diagnosis of Functional Efficiency of the Kidney," in which only the general principles of cystoscopy, etc., are stated. Of the pathogenic germs that may occur in urine only the gonococcus and the tubercle bacillus are fully considered from the point of view of their demonstration. The book comes in a convenient form with flexible covers.

APPLETON'S MEDICAL DICTIONARY. An Illustrated Dictionary of Medicine and Allied Subjects, in Which Are Given the Derivation, Accentuation and Definition of Terms Used Throughout the Entire Field of Medical Science. Edited by Frank P. Foster, M.D. Half-Leather. Pp. 1091. Price $10.00. Thumb Index, $11.00. New York and London: D. Appleton & Co. 1904.

This work is practically Foster's Encyclopedic Medical Dictionary under another name, and revised and modified. Some illustrations are new and original, but many are taken from the older work. It is accurate and up to date in most respects. Beside the Greek or Latin derivation of the word the French and German equivalents are given. In words of Greek origin the rules of the Greek language are adhered to in spelling, for example, "rachitis" is spelled "rhachitis." It seems to us, however, that in such words as hemorrhage and hemorrhoid it is better to replace the diphthong by an "e," thus keeping pace with progress in the development of the language. In an appendix are to be found a list of the chief initial and terminal parts of compound words and a pronouncing list of proper names. There are also a list of abbreviations and a table of weights and measures. The work shows the result of careful revision, as the most recent words are to be found in it.

FRIEDBERGER AND FROEHNER'S VETERINARY PATHOLOGY (Authorized Translation). Translated and Edited by M. H. Hayes, F.R.C.V.S., with Notes on Bacteriology by Dr. G. Newman, D.P.H. Vol. 1. Cloth. Pp. 510. $4.00 net. London: Hurst & Blackett, Ltd. Chicago: W. T. Keener & Co. 1904.

The original of this book is the authoritative work on veterinary medicine in Germany. Its French translation has been made a text-book on this subject in French veterinary schools. This volume in particular will interest physicians because it deals with the infectious diseases of animals. Owing to the undesirable limitation often placed on the term pathology, especially in this country, in which it is frequently employed as synonymous with pathologic anatomy, it is necessary to state that this work deals fully with the clinical aspects of veterinary diseases, that it is in fact a work on veterinary medicine. The translation is a welcome addition to English literature because it places within easy reach comprehensive and authoritative information concerning diseases of domestic and other animals, a subject of increasing interest and importance to human medicine.

LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES. With an Account of Their Relations to Other Diseases and of the Most Recent Methods Applicable to the Diagnosis and Treatment of Them in General; also "The Gastro-intestinal Clinic," in which All Such Diseases are Separately Considered. By Boardman Reed, M.D., Professor of Diseases of the Gastro-intestinal Tract, Hygiene and Climatology in the Department of Medicine of Temple College, Philadelphia. Illustrated. Cloth. Pp. 1021. Price, $5.00 net. New York: E. B. Treat & Co. 1904.

This is a bulky volume of 1024 pages, containing 82 lectures on the diseases of the inner lining of the gastrointestinal canal. There is no discussion of the diseases of the pancreas or of the liver. There is no author's index and the style is rather prolix. Frequently material previously published in articles in medical journals is introduced and there is, on the whole, good room and good reason for condensation. There has been given entirely too little attention in this book to the recent work of Pawlow and others on the various digestive ferments. Nevertheless the general practitioner will find much in these pages that will help him to care for chronic dyspeptics and nervous invalids with gastrointestinal affections. The author lays special stress on treatment.

A TEXT-BOOK OF MATERIA MEDICA. Including Laboratory Exercises in the Histologic and Chemic Examinations of Drugs. For Pharmaceutic and Medical Schools, and for Home Study. By Robert A. Hatcher, Ph.G., M.D., Instructor in Pharmacology in Cornell University Medical School of New York City; and Torald Sollmann, M.D., Assistant Professor in Pharmacology and Materia Medica in the Medical Department of the Western Reserve University of Cleveland. Illustrated. Flexible Leather. Pp. 400. Price, $2.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

This book is written with the object of making the laboratory method of study of this subject popular. The interest in this proverbially dry subject can no doubt be stimulated by objective work. The author is to be commended for his successful venture in giving to the student a practical guide for the study of drugs and their derivatives. The book is divided into three parts. Part one deals with the systematic study of crude drugs. A brief and concise blank form is given which outlines the method of study and describing the drug. Part two considers the plant histology. The first chapter gives a very complete description of the technic necessary for preparing specimens. The section is well illustrated with simple drawings. Part three is a study of the chemical exercises in materia medica. In this section the student is directed to study the

essential connection between materia medica and chemistry. Considerable space is devoted to suggesting an outline for the analysis of unknown drugs. The book is well written, the classifications are good and the book is to be recommended as a practical guide in the laboratory study of materia medica.

WEATHER INFLUENCES. An Empirical Study of the Mental and Physiological Effects of Definite Meteorological Conditions. By Edwin Grant Dexter, Ph.D., Professor of Education at the University of Illinois. With an Introduction by Cleveland Abbe, LL.D. Cloth. Pp. 288. Price, $2.00. New York: The Macmillan Co. London: Macmillan & Co., Ltd. 1904.

The author offers this work, not as a final word, but as a suggestion for further investigation. The field he enters is not without interest to the popular mind nor without possibilities to the investigator, but it certainly is a field of scientific research hitherto unentered to such an extent. Five of the chapters have, in substance, previously appeared in print; the rest of the material is new. The work will be of interest not only to the casual reader, but particularly to medical men, although it presents facts which, in the main, are well known by physicians. But here they are collected and presented in sequential form. It is the author's aim to set forth the influence of weather on human passions, crime and mental growth and development. Among subjects considered are the sources and nature of weather proverbs, animal weather lore, the weather lore of the "skyey influences," the weather and its effect on crime, insanity, suicide, drunkenness, etc. In the preparation of this work the author has availed himself of the assistance of school teachers, wardens of penitentiaries, superintendents of public schools and of asylums for the insane, officials of the United States Weather Bureau and others.

STRABISMUS, OR SQUINT, Latent and Fixed. A Supplement to the Errors of Refraction. By Francis Valk, M.D., Professor of Diseases of the Eye, New York Post-graduate School and Hospital. Cloth. Pp. 171. Price, $1.75. New York and London: G. P. Putnam's Sons. 1904.

While we agree with Edward Jackson that much ink and paper have been wasted in vain attempts to elucidate the many problems that arise in connection with oculo-muscular anomalies and that much of the literature of heterotropia is valueless, it is a praiseworthy task to have stated, as Dr. Valk has done, the principal facts, theories and hypotheses that constitute our present knowledge of squint. Dr. Valk has done some original work in this department of ophthalmic surgery, a fact that gives him a special claim to speak with authority. We agree with him in always preferring, in heterotropia or heterophoria, either shortening or advancement, with or without tenotomy, to tenotomy alone. The various "tucking" operations, however, do not, in our judgement, have a place in ophthalmic surgery, i. e., there does not appear to be a muscular anomaly requiring operative interference whose readjustment can not be more successfully and more neatly accomplished by the average operator through the medium of an advancement, or a shortening without "tucking." We would draw Dr. Valk's attention to one statement in which we think he is in error. On page 121 he says: "I refer the reader to cases of congenital absence of the outward movements of the eyes—seeming convergent squint—where I think the check ligaments may have a very important influence, as in these cases there is a very decided limitation of the outward movement of the eye without any evidence or history of paralysis. I do not think this has been suggested before." This fact has been discussed by Motais and Maddox. Dr. Elliott Colburn of Chicago, writing in the *Ophthalmic Record* for January, 1897, also describes, in an illustrated article, the relations of the check ligaments to convergent squint with limitation of the outward excursion of one eye. The publication of Dr. Valk's book is justified by recent advances in "ophthalmic myology," as Savage phrases it, and the work will be a valuable addition to every ophthalmic surgeon's library.

ADOLESCENCE, ITS PSYCHOLOGY and Its Relation to Physiology, Anthropology, Sociology, Sex, Crime, Religion and Education. By G. Stanley Hall, Ph.D., LL.D., President of Clark University and Professor of Psychology and Pedagogy. Vols. I and II. Cloth. Pp. 550 and 784 respectively. Price, $7.50. New York: D. Appleton & Co. 1904.

The importance of puberty and adolescence as a critical period is becoming more and more recognized. There have been many important contributions to the subject, but the two volumes of the present work constitute by far the most elaborate and complete study that has yet appeared. The author, moreover, believes that he has opened a new line in his genetic ideas of the soul, which pervade the work and "mark an extension of evolution into the psychic field" that is of the utmost importance. How far his conviction in this regard is supported by the facts is a matter that must be estimated by competent authorities, and only after a very careful perusal of the work. The idea that the development of the individual and the race can best be elucidated by careful study of childhood and adolescence is not entirely new, but Dr. Hall has certainly given us more suggestive points and worked out his theory more elaborately than perhaps has been done by anyone heretofore.

Of the nearly fourteen hundred pages that compose the two volumes, several hundred in the beginning are devoted to physical changes, normal and morbid, that take place during the period of adolescence, including under this designation the period from the first indications of puberty to full maturity. This covers a range of from five to fifteen years at least, and may be extended still farther into early adult life. The growth of the body from early infancy to maturity forms the subject of the first chapter, and the special importance of favoring conditions during the development of sexual maturity are specially emphasized. It is at this period of stress that variations and reversions are liable to occur, and the equilibrium of the organism is most seriously disturbed. In the second chapter the details of growth of parts and organs during adolescence are taken up, and the importance of training to prevent abnormal tendencies is pointed out. It is at this time that mental and bodily culture is the problem of life. Next follows a chapter on the growth of motor power and function, a subject that is, when one considers it in all its relations, one of the most important of those discussed in the work, and involves as much as any other, perhaps the future of our race. The value of various forms of exercise, the importance of the play element, are all fully treated. Dr. Hall considers this one of the greatest problems of our present civilization. The "basal activities that shaped the body of primitive man have been suddenly swept away by the new methods of modern industry." There is here, perhaps on his part, a slight lack of recognition of the fact that human evolution proceeds through local and individual degenerations, a fact well illustrated by the evolution of the human jaw and teeth, and pointed out by Talbot, whose important work on dental deformities is not referred to by the author. We doubt whether mankind will ever be so specialized, as, for example, the soldier ants, but we do not know what physical changes future social evolution may bring forth. In any case, we can not exclude the possibility of further local arrest of development in the future evolution of the race. This chapter is, perhaps, one of the most practically important in the work, and is well worth careful perusal by teachers as well as by physicians.

The chapter on diseases of body and mind is a very good general résumé of our modern knowledge concerning these disorders as they affect the growing youth; especially that portion treating of the mental disorders of the period. One would hardly, however, appreciate the actual rarity of juvenile paresis from Dr. Hall's remarks on the subject, and its importance is, perhaps, overestimated by him as a disorder of adolescent life. He follows largely the ideas of Kraepelin, but holds that the term dementia precox, which became so popular under the inspiration of that author, is not altogether satisfactory, and that there are two important links missing in our knowledge of precocious mental decay. These links are knowledge of the actual changes that occur and lack of sufficient record of the earlier symptoms before the full recognition of the disease. He believes also that it is important that teachers and others who have to do with youth should be acquainted with these morbid forms, and wide-awake to the earliest and mildest of these symptoms. It is of the

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utmost importance, he holds, to the study of normal genetic psychology that a careful study should be made of these types of premature decay. The failure of normal youthful development into a sane maturity he thinks will be the real cause of any possible future degeneration of the human race.

The chapters on juvenile criminality, sexual development and periodicity are noteworthy discussions of their subjects that can not be noticed in detail for lack of space. Like the other chapters in the work which have special medical bearings, they give evidence of careful study on the subjects on the part of the author, whose conclusions are generally those that may be accepted as agreeing with the consensus of opinion of those most qualified to judge. The chapter on adolescence in literature, biography and history, which concludes the first volume, is an interesting bit of literary criticism. The author holds that ephebic literature should be recognized as a class by itself and have its own place in the history of letters and criticism.

The second volume contains the discussion of the more particularly psychologic and sociologic aspects of adolescence. It is not less interesting and even more suggestive than the part already noticed. The author seems to favor the idea of the pre-existence of the soul, at least to a certain extent, as elucidating the problems of genetic psychology, and holds that the undue interest in its future has been one of the drawbacks in its study. He is particularly severe on certain methods in education, and is not at all a partisan of co-education. The ultra-feminization of the high schools is one of the leading modern evils, and the effect of the higher education of the adolescent female is, he believes, disastrous to fecundity, and is, therefore, a race danger. The statistics that he has collected appear to favor these views. It is fair to say, however, that there are experienced educators who do not agree with him as to the unavoidable evils of co-education. Boys and girls, according to Dr. Stanley Hall, require a different discipline, moral regimen and moral atmosphere and different methods of work. While co-education may tend to a refinement of manners on the part of the boys, he does not consider this an unmixed advantage. The boy of 15 who is a perfect gentleman has, he believes, something the matter with him. The brute and animal element should, he thinks, be allowed to work itself off in a normal way. On the other hand, the bachelor woman has overdrawn her account with heredity, so that in the full development of her type she is sterile, and this he calls the very apotheosis of biologic selfishness. The concluding chapter on adolescent races and their treatment is an interesting one, though some may question the author's views in some particulars. The typical savage is not always a perfectly lovable creature, and when sophisticated with the average un-Christian civilization which he meets, is still less of one. It may be a question also whether the term adolescent is properly applied to all the inferior races, and whether some of them are not rather in a state of permanent infantilism. Kipling's characterization as "half devil and half child" seems sometimes to close observers the most correct, and it is doubtful whether the world's progress is consistent with their continuation in their autochthonous development. Dr. Hall's quasi-condemnation of certain missionary methods is hardly fair, considering the fact that they have constantly to contend with the active hostile influences of civilization itself. There is very much, however, of truth in his remark that there is need of study of methods in mission work to avoid mistakes that may otherwise be made.

In conclusion, we may say that these two volumes form a treasury of facts and well-digested opinions that should be utilized, not only by physicians, but by teachers and parents generally. It is one of the most fruitful and suggestive works that has of late appeared. It has its drawback to the general reader in the richness of its philosophic vocabulary, and few persons of average culture will be able to interpret some of the terms which the author uses with such freedom; even with the aid of the latest dictionaries it is somewhat difficult. Fortunately, however, the context generally supplies the deficiency.

Miscellany.

Hospitalization of Contagious Diseases.—At the hospital connected with the Paris Pasteur Institute all kinds of contagious diseases are received and taken care of in the same pavilion. About 2,745 patients have thus been sheltered since 1900, including 524 cases of smallpox, 443 of diphtheria, 169 of erysipelas, 136 of measles, 7 of declared hydrophobia; and 192 mothers of sick children or the children of sick mothers. During this entire time there has been contagion of others only in 8 instances—5 of smallpox, 2 of erysipelas and 1 of diphtheria. The mortality has been 18 per cent. in smallpox, 11 per cent. in diphtheria, 2.17 per cent. in scarlet fever, and 6.75 per cent. in erysipelas. The hospital is on the cell or box plan, each separate chamber containing but one or two beds at most, with an entrance on the central corridor and also on a large piazza to be used when it is desirable to shut off the chamber from the rest of the building. There are six "boxes" on each side of the corridor. The walls between them are of glass. Each "box" is cemented and can be washed with the hose. Each has its independent supply of hot and cold water, electric light and gas, and when it is desirable to isolate the nurse with the patient two cells can be thrown into one. Each patient entering the hospital is vaccinated if there are any cases of smallpox in the hospital and each child receives a preventive injection of 5 c.c. of antidiphtheria serum if there is any diphtheria. The dishes, linen, etc., used for each chamber can be disinfected on the spot and none are ever taken out of the pavilion. Every morning and usually evenings, too, the floor is wiped up with a cloth wet with 1 to 50 javel water or a 1 to 200 solution of cresyline. Twice a week the floor of the entire hospital is washed with water and black soap. The erysipelas infection was traced to a rubber comb imperfectly sterilized with sublimate. Since then metal combs have been used and boiled. The cases of contagion of smallpox all developed after an incubation, showing that they must have become infected the first day or possibly before entering the hospital. The case of diphtheria was contracted from some doll's clothes brought from outside to a child. Infection in one case was traced to the cord with which the blind was raised and lowered in the convalescents' room. Martin describes the functioning of this contagious diseases pavilion in the *Bulletin de la Société Méd. des Hopitaux de Paris.*

The Comparative Intellectual Powers of the Two Sexes.—The *Lancet* says that a comparison between the mental attributes of the two sexes has practical as well as scientific interest, for from the economic standpoint it is obvious that the world's intellectual work must eventually fall into the hands of those of either sex, who, by reason of their mental capacities, are best fitted for this purpose. The comparisons drawn by Dr. J. de Körösy, the director of municipal statistics at Budapest, are certainly deserving attention, if only for the extensiveness of the observations on which they are founded. As director of municipal statistics he has had opportunities of comparing the examination records of nearly 1,000,000 children, girls and boys, who have received their education both in elementary and in higher grade schools. As gauged by successes and failures the comparison is greatly in favor of the girls, and even as regards proficiency in arithmetic, a subject usually regarded as the special prerogative of boys, the balance of proficiency inclines obviously to the side of the girls. The intellectual superiority of girls, as revealed by the test method applied by Dr. Körösy, is so unexpected and so entirely opposed to the teaching of the world's history that we naturally turn to other possible sources of explanation apart from inherent intellectual superiority to reconcile pre-existing conception with the statistical figures drawn from the Hungarian archives. The vulnerable features of these statistics, if, indeed, inferences drawn from the intellectual capacity of the girl can be applied to that of the grown woman, is that they refer to a period of life which both in boys and girls is subject to disturbances, sexual and otherwise. These disturbances are so fundamentally bound up with the general development of the organism, intellectual and organic, that it behooves us to be particu-

larly careful in making any sort of a comparison between the two sexes. The unexplained factors which apparently conduce to a form of intellectual precocity in girls, taken in conjunction with the biologic tendency for the establishment of an inverse relationship between the rate of organic development and the duration of a physiologically useful life, may offer some explanation of the fact that nearly the whole work of human progress can be traced to the maturer activities of the male and not of the female intellect.

Best Method of Artificial Respiration.—Experiments to test the amount of air which can be made to enter the lungs in the prone and in the supine positions are reported by the London *Lancet* as having been made by E. A. Schäfer to determine the effectiveness of the methods of performing artificial respiration, of Howard, Sylvester and Marshall Hall. The subject was a youth, the amount of whose tidal air in natural respiration was examined in the supine and the prone positions. With a respiration-rate of 13 the average amount of exchanged air per respiration was 489 cubic centimeters and per minute 6,460 cubic centimeters in the supine, and with a respiration-rate of 12½ it was 422 cubic centimeters and 5,240 cubic centimeters in the prone posture. The subject was then tested by the Silvester method (supine). With a respiration-rate of 12.8 per minute an average of 178 cubic centimeters of air was exchanged per respiration and 2,280 cubic centimeters per minute, or slightly over a third of the normal exchange per minute for the individual. With Howard's pressure method (intermittent pressure applied to the lower ribs), the subject being in the supine posture and the average respiration-rate being 13.6, the average exchange per respiration was 295 cubic centimeters and per minute 4,020 cubic centimeters. In the case of the Marshall Hall method, "the patient is laid prone and rolled over to one side and back again, and so alternately. When in the prone position, pressure was exercised upon the back of the chest." Here, with an average respiration-rate of 12.6 and allowing for the rolling-over movement, the exchange per respiration is put at 284 cubic centimeters and the rolling without pressure at 192 cubic centimeters. In the prone pressure method, the one advocated by Schäfer, the compression is obtained in the same way as in Howard's method, but the patient lies prone with a coat folded beneath the lower part of his chest. The respiration-rate being 13, the average exchange per respiration was 520 cubic centimeters and 6,760 cubic centimeters per minute. It is clear that the experiments narrated above show that only in the case of the last method can an amount of tidal air be forced into the lungs which equals the normal exchange. Schäfer investigated these methods, and his conclusions refer to these methods alone, and he is mainly concerned with the resuscitation of the drowned; still, the fact that one method stands a long way in front of others as regards the amount of air which it effectually exchanges places that method first in all cases in which it is essential to empty and to fill the lungs rapidly. The prone posture is not one which is so easily to be employed in cases of suspended respiration in chloroform poisoning, but is undoubtedly the best in cases of drowning, as it not only gives the most free ventilation of the lungs, but also efficiently drains the air passages of water. Even in cases of suspended respiration under anesthetics when the operation has been commenced and is not one involving celiotomy, there appears no insuperable objection to turning the patient face downward while artificial respiration is carried out in the manner suggested.

Association News.

Portland Special.

Physicians in the East are planning a delightful itinerary in connection with the trip to Portland next year. It will include stops at Niagara Falls, Lake Minnetonka, Yellowstone Park, and Butte, Mont. The return trip will include stops in San Francisco, Los Angeles, Sacramento, Salt Lake City, Glenwood Springs, The Garden of the Gods, Denver and Omaha. The expense is estimated at $325 for each person. This will include all expenses except hotel bills at Portland and San Francisco. Information concerning this trip can be obtained by writing Dr. F. H. Wiggin, 55 West Thirty-sixth street, New York City.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. A., week ending Dec. 10, 1904:

Van Dusen, James W., asst.-surgeon, granted thirty days' leave of absence.

Appel, Daniel M., deputy surgeon general; Appel, Aaron H., surgeon; Metcalfe, R. F., asst.-surgeon, and Vedder, E. B., asst.-surgeon, sailed from San Francisco on the *Logan*, en route to Manila.

Woodson, R. S., asst.-surgeon, will proceed to Hot Springs, Ark., for treatment.

Banister, J. M., March 21, 1905; Raymond, H. I., March 21, 1905; Bradley, A. E., April 21, 1905; Richard, Charles, May 12, 1905; Gibson, R. J., May 12, 1905, and Exan, Peter R., May 19, 1905. The above named surgeons are relieved from duty in the Philippine Division, to take effect on the dates opposite their respective names, and will then proceed by the first available transport to San Francisco, and on arrival report by telegraph to the military secretary of the Army for further orders.

Polhemus, A. S., surgeon, retired from active service on account of disability incident to the service.

Johnson, R. W., surgeon, when services are no longer required at Louisiana Purchase Exposition grounds, will proceed to Fort Crook, Neb., for duty.

Fuller, Leigh A., asst.-surgeon, relieved from duty at U. S. Army General Hospital, Fort Bayard, N. M., and ordered to Fort Clark, Texas.

Arthur, Wm. H., and Glennan, James D., surgeons, appointed members of an Army retiring board to meet at War Department from time to time.

Geer, Charles C., asst.-surgeon, is directed to report in person to president of an Army retiring board, War Department, for examination by the board.

Wythe, Stephen, contract surgeon, granted an extension of one month to his leave of absence.

Rietz, Hugo C., dental surgeon, returned to Fort Sheridan, Ill., November 30, from temporary duty at Fort Brady, Mich.

Chambers, William H., dental surgeon, returned to duty November 26 at San Francisco from leave of absence.

Oliver, Robert T., examining and supervising dental surgeon, granted leave of absence for one month.

Dickenson, Clarence F., contract surgeon, granted leave of absence for three months, with permission to visit the United States.

Enders, William J., contract surgeon, left Fort Morgan, Ala., December 3 on leave of absence.

Wall, Francis M., contract surgeon, arrived at Fort Morgan, Ala., December 3 for temporary duty.

Boak, S. Davis, dental surgeon, returned to duty at Fort Slocum, N. Y., December 2 from leave of absence.

Shellenberger, James E., contract surgeon, returned to duty at Fort Sam Houston, Texas, December 2 from leave of absence.

Mason, George L., dental surgeon, granted an extension of twenty-three days to his leave of absence.

Lauderdale, Clarence E., dental surgeon, returned to duty at Fort Sam Houston, Texas, December 3 from leave of absence.

Brooks, John D., contract surgeon, left Fort Meade, S. D., December 4 on leave of absence for one month and fifteen days.

Navy Changes.

Changes in the medical corps of the Navy, week ending Dec. 10, 1904:

Wheeler, F. W., surgeon, detached from the *Philadelphia*, ordered home and granted sick leave for three months.

Seaman, W. P., detached from the *Wabash* and ordered to the Navy Yard, Boston.

Brownell, C. D., surgeon, detached from the *Amphitrite*, December 20 and ordered to the *Iowa*.

Urie, J. F., surgeon, sick leave extended three months from Dec. 9, 1904.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended Dec. 7, 1904:

Gassaway, J. M., surgeon, granted extension of leave of absence for one day November 27.

Carmichael, D. A., surgeon, to proceed to Washington, D. C., for special temporary duty. To proceed to Evansville, Ind., for special temporary duty.

Cumming, H. S., P. A. surgeon, granted leave of absence for seven days.

Von Ezdorf, R. H., P. A. surgeon, relieved from duty in connection with the exhibit of the Service at the Louisiana Purchase Exposition, St. Louis, Mo., and directed to proceed to Washington, D. C.

Billings, W. C., P. A. surgeon, granted leave of absence for ten days from December 23.

Holt, J. M., P. A. surgeon, granted leave of absence for one day, Nov. 25, 1904, under Paragraph 191 of the Regulations.

Ebersole, R. E., asst.-surgeon, granted fifteen days' extension of leave of absence from December 8.

Stiles, Ch. Wardell, zoologist, granted leave of absence for three days from Nov. 30, 1904, under Paragraph 191 of the Regulations.

Ballard, J. C., A. A. surgeon, granted leave of absence for three days from Dec. 9, 1904.

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Rebennedin, D. M., A. A. surgeon, granted leave of absence for thirty days from December 1.

Goldsborough, R. W., A. A. surgeon, granted leave of absence for two days.

Safford, M. V., A. A. surgeon, granted leave of absence for nine days from December 10.

Cahn, H., pharmacist, granted leave of absence for fifteen days from December 8.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Dec. 9, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 19-26, 1 case.
District of Columbia: Washington, Nov. 26-Dec. 3, 1 case.
Illinois: Chicago, Nov. 26-Dec. 3, 12 cases, 2 deaths.
Indiana: Hammond, Nov. 23-30, 1 case.
Kentucky: Louisville, Nov. 24-Dec. 1, 6 cases.
Louisiana: New Orleans, Nov. 26-Dec. 3, 4 cases, 2 imported.
Michigan: Nov. 26-Dec. 3, Detroit, 1 case; Grand Rapids, 1 case; at 62 localities, Nov. 19-26, present.
Missouri: St. Louis, Nov. 26-Dec. 3, 22 cases, 5 deaths.
New York: Elmira, Nov. 26-Dec. 3, 1 case.
Ohio: Zanesville, Nov. 12-19, 1 case.
Pennsylvania: Philadelphia, Nov. 26-Dec. 3, 1 case.
South Carolina: Georgetown, Nov. 30-Dec. 6, 2 cases.
Tennessee: Memphis, Nov. 26-Dec. 3, 1 case.
Wisconsin: Milwaukee, Nov. 19-Dec. 3, 39 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, Nov. 12-18, 1 death.
Brazil: Pernambuco, Oct. 15-31, 49 deaths.
France: Nov. 12-19, Lyons, 1 case; Paris, 16 cases, 3 deaths.
Great Britain: Nov. 12-19, Dundee, 1 case; London, 1 case; Manchester, 5 cases; Nov. 18-25, Glasgow, 1 case; Newcastle-on-Tyne, 6 cases, 1 death; South Shields, 2 cases; Leeds, Nov. 19-26, 1 case; West Riding, including Dewsbury and environs, Oct. 1-31, 137 cases.
India: Bombay, Nov. 1-8, 2 deaths; Madras, Oct. 29-Nov. 4, 1 death.
Italy: Catania, Nov. 17-24, 2 deaths; Palermo, Nov. 5-12, 9 cases, 6 deaths.
Russia: Nov. 5-12, Moscow, 2 cases, 2 deaths; St. Petersburg, 7 cases.
Turkey: Constantinople, Nov. 13-20, 30 deaths.

YELLOW FEVER.

Brazil: Pernambuco, Oct. 15-31, 1 death.
Ecuador: Guayaquil, Nov. 8-16, 1 death.
Mexico: Coatzacoalcos, Nov. 19-26, 1 case, 2 deaths.

CHOLERA.

Russian Empire: Astrakan (suburb), Oct. 14-16, 3 cases, 2 deaths; Baku, Oct. 11-18, 60 cases, 24 deaths; Moruba, Oct. 8-17, 51 cases, 23 deaths; Samara district, Oct. 10, sporadic.

PLAGUE.

Brazil: Pernambuco, Oct. 1-31, 1 death.
India: Bombay, Nov. 1-8, 52 deaths.
Japan: Formosa, Sept. 3-10, 1 case, 1 death.

Medical Organization.

Arkansas.

EIGHTH COUNCILOR DISTRICT MEDICAL SOCIETY.—At the second meeting of this organization, held at Little Rock, December 6, Dr. Strodder U. King, Little Rock, was elected president; Dr. James H. Voris, Conway, vice-president; Dr. Roscoe L. White, Little Rock, secretary, and Dr. S. Paul Vaughter, Little Rock, treasurer and librarian.

Maryland.

CAROLINE COUNTY MEDICAL SOCIETY.—This society was organized at Denton, November 23, on the standard plan. Dr. Charles M. Ellis, Elkton, was made temporary chairman, and Dr. Fred. N. Nichols, Denton, temporary secretary. The following officers were elected: Dr. Enoch George, Denton, president; Dr. James R. Phillips, Preston, vice-president; Dr. Fred. N. Nichols, Denton, secretary, and Dr. Theodore Saulsbury, Burrsville, treasurer.

PRINCE GEORGE COUNTY MEDICAL ASSOCIATION.—On November 26 this society, at a meeting held in Washington, D. C., adopted the standard constitution and by-laws and elected the following officers: President, Dr. L. A. Griffith, Upper Marlboro; vice-president, Dr. William O. Everafield, College Park; secretary, Dr. William H. Gibbons, Croom; treasurer, Dr. Arthur O. Etienne, Berwyn, and censors, Drs. Charles A. Fox, Beltsville; Nelson A. Ryan, Bowie, and Van Lear Perry, Hyattsville.

North Dakota.

CASS COUNTY MEDICAL SOCIETY.—At the meeting of this society, held in Fargo, December 28, the standard constitution and by-laws were adopted.

South Carolina.

LAURENS COUNTY MEDICAL SOCIETY.—At a meeting held in Laurens, November 28, over which Dr. Job J. Boozer, Clinton, presided, and Dr. Rolfe E. Hughes, Laurens, acted as secretary, the society was reorganized with the following officers: Dr. Job J. Boozer, Clinton, president; Drs. William H. Dial, Laurens, and John H. Miller, Cross Hill, vice-presidents; Dr. A. J. Chrystopher, Laurens, treasurer, and Dr. Rolfe E. Hughes, Laurens, secretary.

Texas.

TARRANT COUNTY MEDICAL SOCIETY has been incorporated at Fort Worth by Drs. Isaac L. Van Zandt, Preston L. Hooper, Edgar D. Cappa and others, without capital stock.

Society Proceedings.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., July 11-14, 1905.
Western Surgical and Gynecological Association, Milwaukee, Wis., December 28 29.
Pan-American Medical Congress, Panama, Jan. 2-6, 1905.
American Public Health Association, Havana, Cuba, Jan. 9-13, 1905.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Nov. 23, 1904.

John B. Murphy in the Chair.

Symposium on Criminal Abortion.

THE DUTY OF THE MEDICAL PROFESSION IN RELATION TO CRIMINAL ABORTION.

DR. C. S. BACON estimates that from six to ten thousand abortions are induced in Chicago every year, a majority of which are married women. To collect data on the subject, to call the attention of the profession to it, and to exercise an influence toward restraining the evil and checking the debauchment of the minds of the profession and the community, a committee of the Council of the Chicago Medical Society was appointed about a year ago. This committee has now arranged for a symposium as a feature in its work of education.

From the medical and social sides of the problem, four reasons are given for repressing the practice of abortion. (1) It is an injury to the embryo or fetus destroyed, for the fetus is a living, human, independent being, and has the right to existence which belongs to all human beings, and it should be protected in this right. (2) It is an injury to the mother, for it is an unjustifiable risk to her health and life. (3) It is an injury to the relatives of the unborn child and to the mother. (4) It is an injury to the state. According to the common law, the fetus is not considered a being until after quickening, and therefore it is not a crime to destroy it. After quickening, its destruction, either by the mother or by a third party, is a misdemeanor, but not a crime punishable by imprisonment. According to the Illinois statutes, which take the place of the common law, there is no distinction between an animate and an inanimate fetus, and the induction of abortion is punished by imprisonment for from one to ten years. The consent of the mother does not absolve the third party who does the act. Intent is the essence of the crime, and the efficiency of the means employed is not considered. If the mother dies, the act is murder. Notwithstanding the prevalence of the crime, there are practically no accusations nor indictments for abortion unless the mother becomes seriously ill or dies. Even in the latter case her relatives generally try to prevent any investigation in order to shield her reputation. The influence of the physician should be exerted to persuade the injured mother or her friends to act. In case of her death, it is his duty to report the case to the coroner as he would any other case of homicide. If a case comes to trial, it is necessary that the physician know the rules of procedure of courts and the rules of evidence. In Illinois no communications to physicians are privileged. Attention is called to the great importance of a dying declaration, which may become the chief factor in producing the conviction. It must be voluntary, made when the patient has given up hope

of recovery, and should state that a certain individual has committed the act.

To illustrate some of these points, Dr. Bacon reported a case of successful prosecution of a midwife for manslaughter. It showed the necessity for obtaining unimpeachable evidence of the existence of pregnancy, and the importance of the dying declaration. Dr. Bacon also called attention to the need of maternity asylums for the unmarried.

MORAL AND RELIGIOUS OBJECTIONS TO ABORTION.

REV. PETER J. O'CALLAGHAN, of the Order of Paulists, said that it was one of the triumphs of the ancient church to have practically eradicated the crime of abortion, and that the Roman Catholic Church stands to-day where she stood a thousand years ago. She declares that no man has the right to destroy, by any direct act, the life of an innocent human being. In the face of a sentiment which has persuaded a large section of the medical profession that direct abortion is sometimes not only justifiable, but even commendable, that church has unflinchingly declared that the direct taking of an innocent human life is always murder, no matter what be the stage of its existence. In 1884 her authoritative teaching body was asked whether it was safe to teach, in Catholic schools, that the operation of craniotomy is sometimes justifiable. The answer was that it was not safe so to teach. In 1889 the same body was asked if any operation at all looking to the direct killing of the child *in utero* was justifiable. The question was also answered in the negative. Again it was asked if this should be done when absolutely necessary to save the mother, and in 1895 this question was answered in the negative. Again, the formal question was asked, if, in extrauterine conception, any operation be justifiable which meant the death of the child. This was answered in the negative.

This church, therefore, has constantly said that no one has a right on any occasion to procure directly, by any act of his, the death of any human being. It maintains the right of the unborn child to live just as much as the right of the mother to live. If one or the other must die, or both die, and if both die without act of ours, the responsibility is not ours. Such, said the speaker, is the position of the Catholic Church. Although these are not dogmatic definitions of Roman Catholic doctrine, they are the authoritative decisions of that church on the question of abortion. The reason for the uncompromising position in this matter is found in the decalogue, "Thou shalt not kill." Principles of conduct can not be arbitrarily confined to particular cases. If it is right to take human life to save the mother's life, it is right to take a human life to save a mother's honor. If it is right to destroy the unborn child in order to avoid the suffering that shame brings, it is right to destroy a child whose birth would mean for others the sufferings of poverty. If there is such a thing as therapeutic abortion that is commendable, Father O'Callaghan thinks that there is no such thing as a criminal abortion that is reprehensible. Legislators may determine that some conditions justify abortion, while other conditions do not, but their judgment will not control the consciences any more than their present laws inconvenience the majority of those that are now guilty of what is called criminal abortion.

CRIMINAL ABORTION AS IT COMES BEFORE THE CORONER'S OFFICE.

MR. JOHN E. TRAEGER, coroner of Cook County, said that before his advent in the coroner's office he had little or no opportunity to know to what extent criminal abortion was practiced, especially in a large, cosmopolitan city like Chicago. He found, after investigation, that many of the abortions are induced by midwives who make a specialty of it, and whose business cards announcing their vocation could be found in some of the houses of ill-fame in the city, being distributed by the landladies or inmates to the men, who might some time want that kind of service. In consulting the records of the office, he found that there had been very few persons held to the grand jury, and fewer still ever convicted of the crime of criminal abortion. This news discouraged him, and he made up his mind to devise some way to stop it. During the past four years, with the assistance of the state's attorney, four of those midwives were sent to the Joliet penitentiary. The first year of his term, he investigated 42 cases of criminal practice; the second year it fell off to 27; last year it was further reduced to 18; but this year it would reach 35, which is an increase of nearly 100 per cent. He held six midwives and one physician to the grand jury this year, and had already convicted two. In investigating the cases of abortion that came to his office, he finds that the cause for the act differs in almost every case, that is, among married women; in some cases on account of poverty, in others on account of children coming too fast, and the society woman, who has not time to devote to maternal cares; and last, but not least, the dwellers in modern flats. It has got so nowadays that a married couple with babies is denied admission to an apartment house or flat building, and it is his opinion that the attitude of landlords in refusing to rent to families with small children and in allowing that impression to go out broadcast is indirectly the cause of much of the criminal practice in Chicago. He thinks the discussion as to the causes of the practice and its cure can be safely left to physicians. He thinks that it is the duty of physicians, and that it is his duty to try to check the practice—their's by advice to the women who come to them for assistance, and his by punishing the guilty who have violated the law.

THERAPEUTIC AND CRIMINAL ABORTION.

DR. CHARLES B. REED stated that, in the advance of moral feeling, the opinion has developed that in certain cases where the lives of both mother and child are imperiled and one can be saved, the child should be sacrificed, since the value of the mother to the State is far greater than that of the unborn babe. Hence, where certain diseases or complications appear in or exist during the course of gestation and threaten the integrity of the case, a broad human sentiment now permits, nay, even demands, the destruction of the fetus. When this situation eventuates before the viability of the child, it is recognized as a prophylactic or therapeutic abortion, and becomes a justifiable measure in the presence of such conditions as hyperemesis gravidarum and eclampsia, which do not yield to treatment. In certain cases of beginning and advanced pulmonary tuberculosis, cardiac disease, insanity, severe nephritis, or serious and irreducible uterine displacements with dense adhesions, the operation is justly performed. In cases of absolutely contracted pelvis, where the patient refuses cesarean section, abortion is sometimes desirable, although the relative dangers of the two operations do not greatly differ in skillful hands. The results of therapeutic abortion, when executed in a careful, scientific way, are generally good, and the indications for its performance are found both in and out of marriage.

Abortion in all its phases is necessarily more common in the married state, and it has been said that almost half of all child-bearing women have an abortion before the thirty-fifth year. It is also true that the medical man is most frequently approached by married women who desire the removal of the socially inconvenient egg. For this situation there is no excuse. When the product of conception is deliberately destroyed for social reasons only, and without physical justification, in a woman married or single, it constitutes a criminal offense before the human and moral law. It is ignorantly maintained by many that the dislodgment of the egg before quickening is in no sense reprehensible, because it is thought that the egg is not alive. This is a distinction of degree only, and a species of special pleading, for the fertilized egg contains all the hopes and possibilities of a mature fetus, and, while quickening usually occurs at the sixteenth week, the fetus is practically fully formed at an earlier period. The normal attitude of the enlightened professional man is hostile to abortion. It is well attested that nearly all of the desperate and fatal complications found in abortions occur in criminal cases. The deaths from such attempts are frequent, and embrace a large range of causative conditions, among which as the most important are perforation, peritonitis, septicemia,

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pyemia, tetanus, endometritis, endosalpingitis, air embolism, abscesses, pneumothorax, thrombophlebitis, phlegmasia alba dolens, etc.

Legal restrictions are relatively recent in origin, but none the less drastic. It is not the murder of a living child which constitutes the offense, but the destruction of gestation by wicked and unnatural means. The moment the womb is instinct with embryo life, gestation has begun, the crime may be committed. The liability of the mother, in the eyes of the law, is the same as that of the third person, and in many states is made equally culpable with the act. In Illinois, the attempt is punishable by imprisonment in the penitentiary for from one to ten years, and if the death of the mother results therefrom, it constitutes murder. But the law, unsupported by popular sentiment, has proved ineffective, and in many cases no attempt is made even to secure its enforcement, and the abortionist rests in security. It devolves on the physician to keep the light before the public mind, not only in general, but in particular instances.

The artificial conditions which drive unmarried girls to abortion should be everywhere strenuously opposed, and even illegitimate motherhood might soon become a bearable penance. Let the legal and moral enactments be what they will, a broad humanity demands the protection of the mother and the illegitimate unborn babe. Maternities should be established and maintained, and homes and places of refuge founded and supported for the woman awaiting confinement. There should be charity for the unfortunate girl who, with unreasoning animalism, attempts to escape exposure and humiliation by abortion. Teach chastity, teach restraint, but, above all, protect the devoted victim of her own strength, or weakness, from yielding to the eternal dominant impulse, and enable her to pass through her gestation and delivery free from the lofty scorn of an unsympathetic sisterhood.

CRIMINAL ABORTION AND NEWSPAPER ADVERTISING.

DR. RUDOLPH W. HOLMES said that he has become convinced that abortions among the better classes are essentially brought about by social causes. He believes that where one abortion occurs from the diverse pathologic causes, many more are produced by the abortionist's instruments, drugs, or other measures. Education is absolutely indispensable to a proper realization of the heinousness of destroying the unborn child; the physician is the one, above all others, who may be the most influential in deterring women from having their desires fulfilled. Well-directed arguments concerning the dangers of having the operation done are, to his mind, more effective than too strong presentations of the moral aspect. So soon as the physician presents to the woman that she is doing a criminal offense, is breaking a moral law, he arouses her enmity from the suggestion implied that she is immoral or a criminal.

The common law, which is founded on ancient and medieval customs, has fostered the belief that the fetus did not have life until quickening was noted by the mother. To this day the states of Connecticut, Mississippi, Minnesota, Arkansas and Oregon accept this obsolete interpretation of the common law in their statutes; other states and most countries, by legislative action, have removed such absurd qualifications as "quick with child" from their statutes defining criminal abortion. Although this really nonsensical belief that the fetus is endowed with life by the accidental circumstances of the mother feeling fetal movements has been done away with in medicine, law and theology, the laity still tenaciously adheres to the old idea. The present law in Illinois, as in nearly all other states, makes a great distinction between an abortion which does not destroy the life of the mother, and when she dies; the former is the felony of abortion, the latter is the felony of murder. Such a law is discriminative, as infanticide is murder, so should feticide be murder; the abortionist, directly, maliciously, with "malice aforethought," deliberately kills the fetus, while it is far from his intention to kill the woman. Dr. Holmes is positive that the daily papers, magazines, and even some so-called religious papers are most fruitful means of disseminating the knowledge concerning the means for producing abortion, by covertly suggesting where the appliances may be obtained, the drugs bought, or even the instrumental methods which may be carried out. There is hardly a daily paper in Chicago which does not regularly print a list of advertisements of professional abortionists. That a veiled advertisement may be brought in as evidence of the criminal intent of the abortionist has been amply settled in Massachusetts, and would undoubtedly be accepted in the courts of other states.[1]

Dr. Holmes briefly reviewed the laws concerning the sale of abortifacients, and stated his belief that the time has come for this society to take an active part in aiding the prosecution of notorious abortionists. This may be accomplished in various ways: 1. By bringing moral suasion on newspaper management, so that they will refuse all advertisements of a suggestive nature; a committee of this society might act as an advisory board of censors. 2. By working in friendly conjunction with the State Board of Health, Chicago Department of Health, the state attorney's office, and with the coroner. If work is carried on along these lines, he thinks an enormous amount of data would be collected which would be of inestimable value to the several legal bodies.

THE COMMON AND STATUTE LAW OF ILLINOIS.

MR. J. M. SHEEAN, attorney for the medicolegal committee, briefly reviewed the history of criminal abortion. According to the ancient English common law, fetal life was held to begin only at the quickening, and until such time no offense could be considered committed by an operation. No offense of any kind, with the woman's consent, was recognized as punishable. If, without the mother's consent, abortion was induced, simple assault was punishable. This law remained until a short time prior to the separation of this country from the mother country. Then certain statutory enactments were passed in England which did not become laws in this country, but which were followed in many of the states. It was made an offense, a misdemeanor, merely to commit abortion or to induce premature delivery, even though the child had not quickened. In addition, there was a provision, if the death of the mother resulted, murder was the crime committed by one who was either the principal or accessory. In Illinois, which adopted the common law, so far as it existed up to 1867, this condition was found, until the first criminal code was enacted, that abortion was defined in a manner slightly different from the crime as it exists on the statute books to-day. Until 1867, the crime of abortion in Illinois was defined as follows: "Whoever, by means of any instrument, medicine, drug, or other means whatever, causes any woman pregnant with child to abort or miscarry, or attempts to procure or produce any abortion or miscarriage, unless the same be done for *bona fide* medical or surgical purposes, shall be imprisoned in the penitentiary."

This statute remained until the year 1867; in 1867 the legislature changed the statute, and enacted it as it now stands on the statute books, and in lieu of the words "for *bona fide* medical or surgical purposes," the provision of the Illinois statute is, "Unless same were done as necessary for the preservation of the mother's life." In interpreting the words, "necessary for the preservation of the mother's life," it has been held that it must be an actual physical necessity; that is, the mental depression which may come because of the unfortunate condition of the mother; the threats of suicide, the probability of insanity, the nervous condition in which the mother at that time finds herself because of her surroundings, because of brooding over her condition are not within the medical law; they are not conditions that will justify a physician or surgeon in saying that it is necessary for the preservation of the mother's life that her child should be destroyed. The courts, in interpreting these words, have properly held that it must be an actual physical condition which renders improbable the continued life of the mother unless the life of the child be destroyed. Whether practical

1. THE JOURNAL, June 23, 1900, p. 1612.

enforcement of the law as it stands is to be brought about is dependent on public desire, public demands. Mr. Sheean said that the law itself is as far advanced as is the public conscience. Indeed, it is further advanced, apparently, than the public demand for its enforcement would require, and so, if anything is to be accomplished, it is not by making appeals to the legislature for a modification of the laws nor for a more stringent law, but public conscience should be so stimulated as to require and demand that the law, as it stands to-day, should be strictly enforced.

SHALL COMMUNICATIONS OF PHYSICIANS BE PRIVILEGED?

DR. HAROLD N. MOYER said that unquestionably the privileged communication or medical secret has stood in the way more largely than any one factor in the prosecution of the abortionist. The common law never had but one privileged communication, and this was not the result of a statute, but simply grew up as a part of the practice of courts, namely, a communication between an attorney and his client was regarded as privileged. Dr. Moyer quoted the Roman law, the French law and the New York statute in regard to privileged communications. The New York statute reads: "A person duly authorized to practice physics or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." He said that this statute might put an onus on the physician. The privileged communication does not apply to this state, a fact not generally known to the profession. The communication of a patient to a physician is absolutely unrestricted and open to the inquiry of the court, and this absolves a physician from all legal responsibility in case he goes into court with questions of this kind.

Some years ago Dr. Moyer urged a member of the legislature to obtain the enactment of a statute making the communications of physicians privileged ones. He regretted he made such a request, and is glad that it bore no fruit, and if to-day he heard of any attempt to have the legislature pass such a law, he would do his best not to have it passed. Such a law, he said, is not useful to the community, and imposes an extraordinary burden on the profession in some particulars. The courts will protect physicians. A communication made under the seal of the confessional is not a privileged communication in this state, yet he has never heard of a court in Illinois that has attempted to invade the sanctity of the clergyman's office. The courts are capable of protecting physicians against the wrongful use or abuse of medical evidence, and the matter could be safely left to them.

DISCUSSION.

MR. FLETCHER DOBYNS, assistant state's attorney, said that the state's attorney can do nothing in prosecuting abortionists until he has complete evidence, and prosecutions frequently fail because evidence has not been properly obtained. He referred to the manner in which evidence should be prepared. The court instructs the jury that every material allegation in the indictment must be proved beyond reasonable doubt. It must be proved that a woman was pregnant, and that an operation was performed to induce abortion. It must be proved that such an abortion was not necessary to save the life of the mother, and that she died as a result of it. It is absolutely necessary for a physician in making his examination to make it carefully and exhaustively and to preserve his data, so that he can refresh his mind, and be able to take the stand and say with absolute accuracy and certainty that the woman was pregnant. This would help the state's attorney in proving to the jury beyond a reasonable doubt that pregnancy did exist. The next point to prove to the jury is that it was not necessary to perform an abortion to save the life of the mother; and the physician must be able to take the stand and to tell the conditions he found, the treatment of the patient, and to give his reasons clearly to the jury to show why it was not necessary to induce an abortion to save the life of the mother. Furthermore, it is necessary to show that death resulted from the operation by which the abortion was produced.

The symposium was further discussed by Dr. M. O. Heckard, Mr. H. H. Hart, Mr. Charles Allen, Dr. Lucy Waite and Dr. Rosalie M. Ladova.

Travel Notes.

XX.

GRANT MEDICAL COLLEGE AND THE HOSPITALS OF BOMBAY.

NICHOLAS SENN, M.D.
CHICAGO.

MARSEILLES, FRANCE, Oct. 3, 1904.

Bombay, with its 800,000 inhabitants, is the commercial metropolis and medical center of India. The city has many and varied medical institutions that awaken the interest of the professional visitor. The most important among these is the Grant Medical College, the largest medical school in India. For sixty years it has been the Mecca for native young men in that part of India who were desirous of entering the ranks of the medical profession. Thousands of graduates have left its doors well prepared to serve their countrymen as reliable and competent physicians. From a modest beginning it has developed into a great medical school with an attendance of more than 600. The personnel of the students is an interesting one. The mixture of colors, from the almost pure white of some of the Eurasians to the coal black of some of the Hindus, and the variety in dress, from Parisian to the most picturesque costumes makes up an interesting picture for the foreigner.

The Mohammedan population of India is large but, as a rule, its young men manifest little desire for a higher education and the number of medical students from this source is small. On the other hand, the Hindus take kindly to the professions of law and medicine and the bulk of the medical students is recruited from the high caste Hindus. The Parsee element of the population is well represented in the medical schools, and the strange headdress of the males of these people figures conspicuously in all the classrooms.

The female medical students number about sixty and, with the exception of two or three white women, they are Hindus, Parsees and Eurasians. What are known as half-castes in Ceylon are designated in India by the more euphonious word, Eurasians, meaning a mixture of Europeans with Asiatics. The female medical students have won for themselves here, as elsewhere, an enviable reputation as enthusiastic, hard workers, who, when the time for graduation comes, are never found at the undesirable end of the class. Their subsequent professional career is often, however, a very checkered one. Some receive hospital positions with small salaries, rupees 100 to 200 ($32 to $64) a month; others enter private practice, but seldom meet with great success; some marry, and not a small percentage sooner or later abandon their profession and turn their attention to some other vocation.

The professors are selected from the Indian Medical Service with special reference to their aptitude to teach the different branches. The principal chairs, medicine, surgery and obstetrics, are occupied by men who have had an extensive experience, while the primary branches, especially pathology and bacteriology, are usually taught by the younger members of the service. Native graduates hold subordinate positions in the teaching force as assistant professors, instructors, demonstrators, tutors, etc. The professors who belong to the civil branch of the Indian Medical Service receive a salary accorded to their military rank and in addition they receive some remuneration from the college for their services to that, for instance, a lieutenant colonel who has been in the service for 20 years may have an annual income of $4,800. In the event of his death, his widow receives a pension of $750 a year and each of his children $150 a year, the sons until they reach the age of 21 years and the daughters until they become married. The pensions are provided by a fund to which each officer contributes. When an officer gets married he pays into this fund 2,000 rupees ($640), and 1,000

rupees ($320) after the birth of every child. At the end of 25 years, on retiring, he receives a pension of $2,500 a year. The teaching duties of these men are so exacting that they are given but a slight chance to increase their income by private practice, which is, however, permitted.

The original Grant Medical College, so called in honor of one of the former governors of Bombay, is a substantial, venerable, two-story stone building. With the increasing demand for space, additional buildings have been erected. The anatomy building (Fig. 1.), now nearing completion, is a two-story, massive stone building, with marble floors; the upper story is the dissecting room, which is flooded with light from all directions. It is unquestionably the finest dissecting room in the world. Connected with it is a small separate building, covered with wire screen for the purpose of excluding vultures and crows, in which the bodies are prepared and the bones of the dissected subjects are cleaned and mounted.

The chemical and pathologic laboratories are inadequate for the present requirements and it is hoped that separate buildings will soon be erected for each of these very important primary branches. With an ever increasing attendance, the lecture rooms will also soon become too small. The curriculum of study for the M.B and B.S. degrees extends over five years and includes the following studies:

First Year.—Biology, botany, chemistry, practical chemistry, materia medica, practical pharmacy.

Second Year.—Anatomy, botany, chemistry, practical chemistry, materia medica, practical pharmacy, physiology.

Third Year.—Physiology, histology and practical physiology, anatomy.

Fourth Year—Medicine, surgery, pathology, hygiene, diseases of women and children, demonstrations in pathology, clinical practice in medical, surgical and obstetric wards. Attendance at male and female out-patient rooms. Attendance at pathologic room.

Fifth Year.—Surgery, medicine, diseases of women and children, operative surgery, clinical practice in medical, surgical, obstetric and surgical wards, attendance at pathologic room.

A glance at this curriculum shows what attention is paid to the primary branches, especially chemistry, anatomy and botany, the last of these entirely ignored in most of our medical colleges and the first and second only too often treated in a stepmotherly way. The students are not pestered with unnecessarily frequent examinations, as only two examinations a year are held, at the end of each semiannual term.

The military pupils, of whom there are now 86 in attendance and who finish their studies in four years, have a somewhat different curriculum of study to follow. It is as follows:

First Year.—Anatomy, descriptive and surgical, dissections, anatomy and physiology, materia medica, chemistry and practical chemistry, compounding dispensary.

Second Year.—Anatomy, descriptive and surgical, dissections, anatomy and physiology, materia medica, chemistry and practical chemistry, compounding dispensary.

Third Year.—Medicine and clinical medicine, surgery and clinical surgery, diseases of women and children, hygiene, pathology, hospital practice and out-door dispensaries, postmortem examinations.

Fourth Year.—Medicine and clinical medicine, surgery, clinical and operative surgery, diseases of women and children, practical toxicology, clinical, medical, surgical, obstetric, and ophthalmic wards.

Fourth year students and third year military pupils attend in rotation at the male out-patient rooms as arranged by their teachers. Female pupils attend at the female out-patient rooms. Four and five didactic lectures, from 10 to 3 or 4 p. m., are delivered daily except Saturday, on which day only two lectures are given, during the forenoon. The clinics in the Jamsetjee Jeejeebhoy Hospital begin at 7 or 7:30 a. m. and are held daily. This is the hospital in which the clinical teaching in medicine and surgery is done exclusively. The present teaching staff consists of eleven professors, one demonstrator and eleven tutors. Lieut.-Col. H. P. Dimmock, I.M.S., is principal of the school and professor of obstetrics, gynecology and diseases of children, and Lieut.-Col. Quicke, I.M.S., is professor of surgery, operative surgery and surgical anatomy.

The final examination in this college appears to be quite a severe one, as every year only about 45 per cent. of the candidates for graduation are recommended to the Bombay University, with which the college is affiliated, for the degree. Those who fail may come up again for examination at the close of the next or of any other subsequent term.

The military pupils are prepared for the assistant surgeon branch of the Indian Subordinate Medical Department. They must be of European or Eurasian parentage, not less than 16 and not more than 18 years of age. They must pass a satisfactory physical examination and are examined in the following subjects: English.—Handwriting, dictation, composition, explanation of idioms and grammar questions. History and geography.—The outlines of English and Indian history, and the elements of physical and general geography. Mathematics—Arithmetic: The four simple rules, vulgar and decimal fractions, reduction, practice, proportion, simple interest, extraction of square root. Algebra: The four simple rules, proportions, simple equations; Euclid, first book. Vernacular—Hindustani, colloquial.

They are educated at government expense. Pupils who obtain less than 33 per cent. of marks in each subject of their final examination will be liable to removal from the college.

Fig. 1.—Anatomy Building, Grant Medical College.

Such pupils, however, will be allowed to remain for a further period (to be fixed by the principal in each case) in the college to continue their studies at their own expense. Military assistant surgeon graduates from this department of the college are employed in hospitals of British troops and in military and civil appointments; those in civil employment being available for military duty in time of war or other urgent necessity. This branch of the military medical service is entitled to the following pay:

1. Senior assistant surgeon, with honorary rank of captain, 400 rupees ($128).
2. Senior assistant surgeon, with honorary rank of lieutenant, 300 rupees ($96).
3. Assistant surgeon, first class, 200 rupees ($64).
4. Assistant surgeon, second class, 150 rupees ($48).
5. Assistant surgeon, third class, 110 rupees ($35.20).
6. Assistant surgeon, fourth class, 85 rupees ($27.20).

In addition to this pay they receive allowances when on special duty, and traveling expenses, and pensions on retiring from the service. Retirement is compulsory at the age of 55 years.

PATHOLOGIC MUSEUM.

The pathologic museum of Grant Medical College contains a very large amount of material illustrative of tropical diseases. It is the result of accumulation of specimens for 60 years and should contain more than it does, but the opposition to postmortem examinations is so violent and persistent

that permission is only seldom obtained. No Parsee corpse has ever been touched by a pathologist except under medico-legal pressure. Not many years ago a postmortem was made on a Mohammedan and when the fact became known it gave rise to a riot in the hospital grounds, which it was found difficult to suppress. Since that time the Mohammedans employ a salaried guard, who watches the approach of grim death in the hospital, and, if the patient is a Mohammedan, he sees to it that the corpse escapes the postmortem knife. The Hindus furnish the material for the museum almost exclusively.

This unreasonable objection to postmortem examinations by a large proportion of the population of Bombay has seriously interfered in collecting a larger material. A catalogue of specimens in the Pathologic Museum was prepared by Capt. G. F. Gordon, I.M.S., in 1903, and was published by the government in the form of a well bound and well printed book of 247 pages. I will quote here a description of only a few of the most interesting specimens:

Pneumonic Plague.—The lung is solid throughout, greatly enlarged, and the visceral pleura covered with slate colored blotches, which are subserous hemorrhages. This specimen was from a patient aged 26, who was ill about three days. One section of the lung was filled with light colored masses, which were surrounded by areas of acute congestion. The lower were more markedly affected by consolidation than the upper lobe. There were several hemorrhages in the cellular tissue of the posterior mediastinum, and the other viscera were acutely congested.

Syphilitic Fibrosis of the Lung.—A portion of the left lower lobe, showing broad bands of fibrous tissue running through it, the largest proceeding from the base of the lung in an upward direction. The section shows very little lung parenchyma, and that in a most condensed state. Numerous openings of vessels and dilated bronchi are seen, closely agglomerated from the shrinking process which has gone on. The affected portion of the lung seems to be shut off from the more healthy part by a broad band of fibrous tissue. The specimen was taken from a man whose leg was amputated for chronic ulceration; a Hindu aged 40 years. There were a few caseous nodules in the right lung; the capsules of the liver and spleen are greatly thickened, especially of the latter. There was a gumma in the spleen; both testicles had undergone fibroid degeneration with thickening of the tunics vaginalis. There was a left hydrocele.

Aneurism of the Heart.—At the upper posterior part of the left ventricle, immediately to the right of the mitral valve, is a pouched condition of the septum measuring fully 1¼ inches across at its mouth and an inch deep at the deepest part. The pouch is lined with thick, opaque endocardium. The right group of chordæ tendineæ is thickened. There is thickening and contraction of the mitral orifice. In the right ventricle is a patch of opaque endocardium at a point covering the pouch in the septum. The patient was a male Mohammedan, aged 60; ill for weeks. The aorta was atheromatous; a breaking down gumma was found in the liver, the capsule of which was extensively scarred. The right kidney was atrophied and contained sand-like calculi; left kidney hypertrophied; fibroid left testicle; ulceration of large intestine. It is suggested that it is a case of syphilitic myocarditis, with resulting fibroid degeneration causing weakening of the septum.

Malarial Hepatitis.—Section of a highly pigmented liver, which is hard and has a mottled appearance on the surface. The surface of the section is granular. Such livers are, as a rule, slightly enlarged, uniformly tender, associated with slight jaundice, some evidence of bronchitis at the base of the right lung, and therefore they are often difficult to distinguish from cases of hepatic abscess.

Hepatic Abscess.—This shows the upper surface of the liver, where an abscess had burst through the diaphragm. There were three large abscesses in the right lobe. One had intricate connection with the diaphragm, which formed the upper wall of the abscess cavity. In this were two minute perforations, which communicate through the thickened pleura, with a pneumonic patch in the base of the right lung. The patient was a Mussulman, aged 28. The illness commenced with an attack of dysentery, three months prior to admission. No signs of dysenteric ulcerations were found in the bowel at the postmortem examination.

Enormous Calculus of the Bladder.—This stone (uric acid and urates) is probably one of the largest stones ever removed from the human bladder. About half of the stone is shown in the central compartment and the fragments are grouped around it. The operation in this case was performed in 1876 or 1877 by the late Apothecary White at Tando Alyhar Dispensary, near Hyderabad, in Sindo. The patient was a man 25 years old and had suffered from symptoms of stone since childhood. An attempt was made to extract it by the lateral operation, but this being unsuccessful, the suprapubic operation was performed. Even now it was found impossible to extract the stone. By means of some improvised instrument (a craniotomy forceps), the stone was broken in pieces and removed. The patient lived for about twelve hours after the operation. The weight of the stone was 30 ounces and 95 grains.

Atrium of the Small Toe.—This curious condition generally commences on the inner and plantar surface of the little toe. It begins as a narrow groove on the skin, which slowly deepens. The groove involves the whole circumference of the digit, the distal portion of which swells up as if it had been constricted

Fig. 2.—Madura foot. Amputation by Professor Quicke.

by a ligature. The digital portion finally becomes a round, dangling mass and, after some years, drops off. The fourth toe is next affected, and so on.

Mycetoma or Madura Foot.—The shape of the foot is characteristic (Fig. 2). The disease is absolutely localized to the foot, the circumference of the leg above the ankle not being increased. The skin of the foot is covered with pellets, some of which have been cut across to show the yellow fatty material of which they are composed. A window has been cut on one side of the foot. A capsule of thick, dense, fibrous tissue envelopes the foot and this hardened tissue is honeycombed with small cavities, which lodge the yellow bodies in the interior of the bone, which has fallen away from the tissues and which can be seen riddled with large communicating cavities. The specimens were obtained by amputation and presented to the museum by the operator, Prof. Quicke (Fig. 3).

Anesthetic Leprosy.—A dissection of a leprous foot made by the late Dr. Van Dyke Carter. The nerves are considerably thickened, especially on the plantar surface. The great toe has been lost, and all the digits, except the middle one, are partially absorbed.

Guinea Worm.—This is a long, thin worm from 12 to 40 inches long. The female only is known as a parasite in the human body. It wanders into the loose subcutaneous tissues

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of the leg, scrotum and sometimes the upper limb, and there generally forms an abscess or it may form a vesicle from which the extremity projects, when it can be gradually removed by slow traction extending over some days, the protruded portion being wound round a stick.

Jamsetjee Jeejeebhoy Hospital.—The Jamsetjee Jeejeebhoy is one of the oldest and best known of the many Bombay hospitals. It bears the name of the Parsee who built it at his expense and presented it to the government in 1845, the same year that Grant Medical College opened its doors to medical students. Mr. Jamsetjee Jeejeebhoy was a poor man, but made a fortune by buying and selling bottles nearly a century ago, hence the hospital is still well known under the name of "Bottle Hospital." Mr. Jamsetjee Jeejeebhoy was knighted by Queen Victoria in recognition of his many deeds of charity, and a full size statue of stone in a half reclining position in the main entrance hall of the hospital does honor to the memory of its founder. The hospital is for the exclusive use of the native sick poor and is maintained entirely at government expense. The hospital is an immense one-story stone building, with accommmodations for 300 patients. It is an old-fashioned structure, which lacks many of the important

Fig. 3.—Keloid of punctured lobe of ear. Excision, with good cosmetic results, by Professor Quicke.

features of a modern hospital, and it is about time that it should give way to a new building better adapted for present requirements.

Three new two-story stone pavilions were opened in 1892, the Sir Dinshaw Petit Hospital for diseases of women and children, the Bai Motlaibai Maternity and the Ophthalmic Hospital, each with a capacity for about forty patients. These new buildings are modern in their construction, are well furnished and have excellent little operating rooms. The nursing is also better than in the old hospital. About 800 women are delivered annually in the Maternity Hospital, and two students attend each case; this gives them an excellent opportunity to become conversant with practical obstetrics. The most careful aseptic precautions are employed and sepsis in in-patients is almost unknown. The delivery room has all the austere appearances and simplicity of an operating room. Two women were in labor when I visited this department of the hospital.

Professor Dimmock showed me a number of interesting cases on which he had recently performed major gynecologic operations. In the old building, a small ward has been converted into an operating room supplied with the most primitive outfit for asepsis. What this hospital is sadly in need of is a new and separate operating theater and a more complete set of surgical instruments. It is a great injustice to the surgical staff to be obliged to perform 5,000 operations annually under such trying circumstances. All hospital surgeons in India confess that it is extremely difficult to prepare a native for operation. A patient recently admitted to the surgical wards of Professor Quicke for the purpose of undergoing an operation for the radical cure of an inguinal hernia, brought with him the following sources of infection: Scabies, ringworm, diffuse furunculosis and pyorrhea alveolaris. (Fig. 3.)

The nursing of this institution leaves much to be desired. The trained female nurses are inadequate in number, and it is only recently steps have been taken to organize a training school. Most of the nursing is done under their supervision by male and female ward attendants. The house staff, consisting of three medical officers of the Indian Subordinate Medical Department, is made up of a house surgeon and two assistant house surgeons. The house surgeon has charge of the property, his work being largely that of an executive officer, but, in the absence of the regular attending staff, he attends to the emergency cases, medical and surgical. The first assistant surgeon has charge of the drug room and dispensary, and the second assistant attends to the admission of patients and makes the preliminary examinations. The fourth and fifth year students do much of the dressing, under the supervision of the house surgeon and attending staff, and they assist at operations. The bedside clinics are an important feature of the clinical teaching in this, as well as in all other medical colleges in India. The attending staff of this hospital consists exclusively of the clinical teachers of Grant Medical college.

(To be Continued.)

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Urticaria.

The treatment of urticaria, according to the *Med. News*, consists of purgatives, intestinal antiseptics such as salol, benzonaphthol and quinin or alkalies. The following is recommended locally:

B.	Acidi carbolici (pure)	℥ss	2
	Glycerini	ʒiss	45
	Aquæ	℥v	150

M. Sig.: Apply locally.

Lotions containing chloral in strength of 5 to 200 are also recommended. As an ointment the following:

B.	Zinci oxidi	ʒss-ℑi	2-4
	Cocainæ hydrochlor.	gr. v-x	30-.60
	Lanolini	ℑi	30

M. Fiat unguentum. Sig.: Apply locally.

If the pruritis is rebellious an application of a paste or a plaster as a protecting envelope will be necessary. Edema of the glottis is a serious complication and requires hot applications to the neck, hot foot-baths, hot fumigations and the administration of ether, spiritus etheris compositi and acetate of ammonia. In some cases tracheotomy is necessary. In chronic urticaria the diet should be carefully guarded, and wine should be prohibited. The bowels should be moved daily and alkalies and intestinal antiseptics given, such as charcoal, sodium bicarbonate and magnesia. Sufficient elimination by the kidneys should also be secured.

Thrush.

The following combinations are recommended by *Rev. Francois de Med.* in the treatment of thrush:

℞. Sodii bicarb. ..... ℥i 4
Sodii boratis ..... ʒss 2
Syr. idæ ..... ℥vi 24
M. Sig.: To be used as a mouth wash. Or:
℞. Glycerini ..... ℥vi 24
Amyli
Sodii boratis, ää ..... ℥i 4
M. Sig.: Apply with a camel's hair brush.

Carbolic Acid Poisoning.

Chas. V. Burke, in *N. Y. and Phila. Med. Jour.*, states that Epsom and Glauber's salts are of no value as antidotes of carbolic acid poisoning. He regards alcohol as of great value and if given promptly and followed by lavage, will save life. The stomach tube should be fairly stiff, as some force is required to introduce it, as the mucous membrane is roughened and dry on account of the caustic effect of the acid. The swallowing reflexes are also abolished and there is more or less spasm present. A weak alcoholic solution should be used for the washing. He, therefore, recommends whisky in as large quantities as can be borne, introduced by the stomach, hypodermically and by rectum.

Aborting Buboes.

The following ointment is recommended in aborting buboes:

℞. Ung. hydrarg.
Ung. belladonnæ
Ichthyol
Lanolini, ää ..... ℥ii 8
M. Fiat unguentum. Sig.: Apply locally on gauze and renew once a day.

Burnside Foster, according to *Buffalo Med. Jour.*, recommends that the patient be put to bed, a calomel purge administered followed by calcium chlorid, grain 1/12 (.005) every three hours. An ice-bag should be placed over the bubo. By this treatment the bubo is aborted within a week.

Horwitz recommends that a small opening be made into the bubo with a very small bistoury and peroxid of hydrogen or mercuric chlorid, 1 to 5,000, be injected. After the cavity is cleansed it is filled with sterilized vaselin containing 10 per cent. of iodoform and an ice pack applied.

Dysentery.

The prophylaxis of the treatment of dysentery, according to Kolbassenko in *Med. News*, consists in:

1. Avoiding overexertion.
2. Supplying most nutritious diet.
3. Drinking the best water possible.

In moderate cases the patient should be placed on a mild liquid diet and a warm abdominal bandage applied, saturated with alcohol. The following emulsion should be given:

℞. Tinct. iodidi ..... gtt. viii | 50
Olei ricini ..... ℥iv-℥i 15-25 |
M. Sig.: At one dose, to be repeated two or three times a day.

By administering the iodin in the castor oil it reaches the intestine better and the iodin is liberated.

After the acuteness of the attack has subsided the author recommends the following suppository:

℞. Ichthyolei ..... gtt. ii-viii | 12-.50
Xeroformi ..... gr. v-viii | 30-.50
Bismuthi subnit. ..... gr. xv-xx 1-1 | 30
Antipyrini ..... gr. vi | 35
Lanolini |
Olei theobromati, ää q. s. |
M. Fiat suppos. No. i. Sig.: One or two such suppositories to be inserted daily.

Where there is a great deal of intestinal irritability, grain 1/3 to 1/2 (.02-.03) of the extract of opium or belladonna may be added. Ichthyol is considered as a local astringent and disinfectant, antipyrin as an astringent, antiseptic and analgesic.

Warm injections of water containing a few drops of creolin are also highly beneficial.

Chronic Blepharitis.

The following combinations are recommended by *Amer. Med.* in the treatment of chronic blepharitis:

℞. Ung. hydrarg. rubri ..... gr. iss | 09
Plumbi acetatis ..... gr. 3/4 | 05
Adipis benzoinati ..... gr. lxxv 5 |
M. Sig.: Apply locally once or twice daily. Or:
℞. Zinci oxidi
Plumbi acetatis, ää ..... gr. 3/4 | 05
Olei amygdalæ dulcis ..... gr. viiss | 50
Liq. petrolati ..... gr. lxxv 5 |
M. Fiat unguentum. Sig.: Apply locally.

Congenital Syphilis.

A. Ravogli, in *Critic and Guide*, states, in speaking of the treatment of congenital syphilis, that a syphilitic must be nursed only by its own mother. Nurse girls must be cautioned against kissing the babe in the mouth. In this connection several cases are mentioned where syphilis was contracted through carelessness or ignorance.

The treatment of congenital syphilis, both local and constitutional, is similar to the acquired.

When the little patient is covered with eruptions it should be bathed in a solution of mercury bichlorid every day for ten or fifteen minutes. The solution should be prepared by dissolving from two to four tablets of seven grains of mercuric chlorid in six gallons of warm water in the bath, making a 1 to 12,000 strength solution.

THE CORYZA.

To relieve the coryza the nurse should be directed to remove the purulent secretion with a wet rag or cotton and inject by an ordinary glass dropper a solution of mentholated sodium biborate:

℞. Sodii boratis ..... ʒss 2
Mentholi ..... gr. i | 06
Aq. camphoræ
Aquæ dest., ää ..... ʒiss 45
M. Sig.: To be injected into the nostrils while the babe is held in the erect position in order to prevent choking.

FISSURES AND MUCOUS PATCHES.

Fissures and mucous patches around the nose, on the lips, tongue and genitals, should be touched with a 3 per cent. solution of silver nitrate, and afterward washed with sterilized water to remove the excess of silver.

Ulcerated surfaces and excoriated papules are usually dusted with calomel and covered with dry absorbent cotton. If the dry dressing is non-indicated on account of forming crusts, the following salve is recommended by the author:

℞. Hydrarg. precip. alb. ..... gr. iv-vi | 25-.40
Bismuthi subcarb.
Zinci oxidi, ää ..... ʒss 2
Acidi carbolici ..... gtt. vi | 40
Liq. petrolati ..... ʒi 30 |
M. Fiat unguentum. Sig.: To be applied locally.

In cases of ulcerated cutaneous gummata the employment of emplastrum hydrargyri is preferable. In some cases the application of iodoform powder, iodoform gauze or iodoform salve is valuable.

CONSTITUTIONAL TREATMENT.

As in acquired syphilis, mercury is indicated in these cases, administered by ingestion, subcutaneously or by inunctions. In cases with secondary symptoms, when the general nutrition is not too much affected, mercury administered by ingestion is preferable. Calomel is in this way recommended, giving it in doses of 1/10 grain (.006) two or three times a day combined as follows:

℞. Hydrarg. chloridi mitis ..... gr. ii | 12
Sodii bicarb. ..... gr. x | 65
Sacch. albi ..... gr. x | 65
M. Fiant chartulæ No. xx. Sig.: One powder twice daily in a little water or milk.

Mercury may be given in the form of the gray powder, one grain (.06) four times a day.

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If the patient is troubled with diarrhœa when calomel is given, then mercurial inunctions should be resorted to as follows:

℞. Ung. hydrargyri
Lanolini, ää 3ss 15

M. Fiat unguentum. Sig.: Twenty grains to be rubbed daily into the soles, palms, back, axillæ and thighs alternately. After the inunction has been applied the area should be covered with a piece of lint to maintain the ointment in contact with the skin.

In grave cases of congenital syphilis deep injections into the muscles are advised. The gray oil in five drop (.30) doses of the 20 per cent. solution has been so administered once a week injected into the gluteal region.

Potassium iodid is recommended along with the mercurial treatment, especially when the tenderness of the joints shows epiphysitis or periostitis, given in doses of from 10 to 20 grains (.65-1.30) daily.

As soon as decided improvement has taken place the mercurial preparations may be substituted by a ferruginous tonic, in order to correct the anemia and to improve the nutrition of the patient. The specific treatment must be carried on for a year or longer, changing the preparations as necessary.

PROPHYLAXIS.

When symptoms of congenital syphilis appear in a newborn babe the parents should be placed on specific treatment. The mother should take antisyphilitic treatment for four months during her pregnancy in two or three periods. The effect thus produced on the fetus is very great and produces a wonderful diminution in the ravages of the disease.

Medicolegal.

May Recover Damages for Second Miscarriage.—The Court of Civil Appeals of Texas says that, in Rapid Transit Railway Company vs. Smith, the wife of the latter party was injured, June 8, in a collision of cars. She was pregnant at the time, and the accident caused her to miscarry the next day. In the following November, having again become pregnant, she miscarried again, which the physician said was the probable result of the accident; and the court does not think that the allegation of a second miscarriage, November 15, was too remote for a recovery.

Confinement of Person Acquitted of Crime for Insanity.—Chapter 1 of the Public Laws of North Carolina of 1899 provides that: "When any person accused of the crime of murder shall have escaped indictment or shall have been acquitted on the trial on the ground of insanity, * * * the court before which such proceedings are had shall in its discretion commit such person to the Hospital for the Dangerous Insane to be kept in custody therein for treatment and care as herein provided," etc. In holding this statute unconstitutional, the Supreme Court of North Carolina says, in re Boyett, that the right and duty of the state to provide for the care and treatment of its insane, with such confinement and restraint of their liberty as may be necessary for that purpose, was conceded. It is made the duty of the General Assembly to do so by Sec. 10, Art. 11, of the Constitution of North Carolina. It was also conceded that the state may, pursuant to general laws, and after proper judicial proceedings, confine insane persons for their own protection and that of other persons. It is also true that, to meet sudden emergencies, and prevent either self-destruction or injury or harm to other persons, an insane person may be restrained temporarily without adjudication of his insanity. The writers and courts have not undertaken to define the limitations of the power which the state has to deal with these unfortunate people, except by the announcement of general principles essential to their welfare and the protection of the public. This court does not propose to discuss this delicate subject. A very different question is presented when the legislature undertakes to confer on courts discretionary power to confine persons in asylums or hospitals and makes no provision for notice or adjudication before the order for confinement, or for review of such discretion after the person is committed. It is well settled that a person acquitted by a jury on the ground of insanity existing at the time of the commission of the act is entitled to all of the protection and constitutional rights as if acquitted on any other ground. The fatal infirmity in the statute under consideration is that the power to commit is vested in the court to be exercised "in its discretion." No provision is made for notifying the person whose liberty is involved, nor is the court required to make any investigation either by itself, by examination of witnesses, by calling to its aid medical experts, or otherwise. It may be that the wisdom of the legislature will find, within constitutional limitations, a remedy for the objectionable features of the statute. The court does not wish to be understood as saying that a person acquitted of a grave crime on the ground of insanity may not be detained for a reasonable time, so that by some appropriate proceedings the condition of his mind may, either under the direction of the judge presiding or some other judicial officer or commission, be examined into for the purpose of ascertaining whether his own safety and that of other persons or the public generally requires that he be committed to the hospital for treatment and care. It is well settled that it is not necessary that a jury trial be had; it is sufficient if the inquiry be had in some way and by some tribunal conforming to the constitutional requirement of due process of law. Another and equally fatal objection to this particular statute is that it provides that a person acquitted of a capital felony and committed to the hospital can not be released except by an act of the legislature. It is a fundamental principle that every person restrained of his liberty is entitled to have the cause of such restraint inquired into by a judicial officer. The judicial department of the government can not by any legislation be deprived of this power or be relieved of this duty.

Validity of Health Laws—Compulsory Vaccination.—The public health law of New York provides that "no child or person not vaccinated shall be admitted or received into any of the public schools of the state, and the trustees or other officers having the charge, management or control of such schools shall cause this provision of law to be enforced. They may adopt a resolution excluding such children and persons not vaccinated from such school until vaccinated." The question was presented by the case of Viemeister vs. White whether the legislature was prohibited by the Constitution from enacting that such children as have not been vaccinated shall be excluded from the public schools, the Constitution requiring the legislature to "provide for the maintenance and support of a system of free common schools, wherein all the children of this state may be educated." The Court of Appeals of New York upholds the law. It says that a statute entitled a health law must be a health law in fact as well as in name, and must not attempt in the name of the police power to effect a purpose having no adequate connection with the common good. When the sole object and general tendency of legislation is to promote the public health, there is no invasion of the Constitution, even if the enforcement of the law interferes to some extent with liberty or property. The right to attend the public schools of the state is necessarily subject to some restrictions and limitations in the interest of the public health. A child afflicted with leprosy, smallpox, scarlet fever, or any other disease which is both dangerous and contagious, may be lawfully excluded from attending so long as the danger of contagion continues. Public health, as well as the interest of the school, requires this, as otherwise the school might be broken up and a pestilence spread abroad in the community. So a child recently exposed to such a disease may be denied the privilege of our schools until all danger shall have passed. Smallpox is known of all to be a dangerous and contagious disease. If vaccination strongly tends to prevent the transmission or spread of this disease, it logically follows that children may be refused ad-

mission to the public schools until they have been vaccinated. It must be conceded that some laymen, both learned and unlearned, and some physicians of great skill and repute, do not believe that vaccination is a preventive of smallpox. The common belief, however, is that it has a decided tendency to prevent the spread of this fearful disease and to render it less dangerous to those who contract it. While not accepted by all, it is accepted by the mass of the people, as well as by most members of the medical profession. It has been general in New York state and in most civilized nations for generations. It is generally accepted in theory and generally applied in practice, both by the voluntary action of the people and in obedience to the command of law. Nearly every state of the Union has statutes to encourage or directly or indirectly to require vaccination, and this is true of most nations of Europe. It is required in nearly all of the armies and navies of the world. Vaccination has been compulsory in England since 1854, and the last act upon the subject, passed in 1898, requires every child born in England to be vaccinated within six months of its birth. It became compulsory in Bavaria in 1807; Denmark, 1810; Sweden, 1814; Würtemburg, Hesse, and other German states, 1818; Prussia, 1835; Roumania, 1874; Hungary, 1876; and Servia, 1881. It is aided, encouraged, and to some extent compelled, in the other European nations. It is compulsory in but few states and cities in this country, but it is countenanced or promoted in substantially all, and statutes requiring children to be vaccinated in order to attend the public schools have generally been sustained by the courts. A common belief, like common knowledge, does not require evidence to establish its existence, but may be acted on without proof by the legislature and the courts. The fact that the belief is not universal is not controlling, for there is scarcely any belief that is accepted by every one. The possibility that the belief may be wrong, and that science may yet show it to be wrong, is not conclusive; for the legislature has the right to pass laws which, according to the common belief of the people, are adapted to prevent the spread of contagious diseases. In a free country, where the government is by the people through their chosen representatives, practical legislation admits of no other standard of action. While the court does not decide and can not decide that vaccination is a preventive of smallpox, it takes judicial notice of the fact that this is the common belief of the people of the state, and with this fact as a foundation it holds that the statute in question is a health law, enacted in a reasonable and proper exercise of the police power.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 3.

1 *Presence of Tubercle Bacilli in the Urine of Patients Suffering with Pulmonary Tuberculosis. Randle C. Rosenberger.
2 *The Roentgen Treatment of Malignant Disease of the Breast. Charles L. Leonard.
3 Review of Some Malignant Cases. Charles L. Leonard.
4 *Status of Our Knowledge of Sero-therapeutics. D. H. Bergey.
5 *Concerning the Suppression of the Acetone Bodies in Diabetics. Heinrich Stern.
6 *A New Reflex: Paradoxic Flexor Reflex. Alfred Gordon.
7 *Operative Technic in Stone in the Ureter. J. P. Crawford.

1. **Tubercle Bacilli in the Urine.**—Rosenberger examined the urine for tubercle bacilli in 25 cases of pulmonary tuberculosis in which there was positively no involvement of the genito-urinary tract. A few isolated tubercle bacilli were found in only three cases, and no clumps nor groups of bacilli were observed, as are usually seen in cases of tuberculous cystitis, nephritis, etc.

2.—See abstract in THE JOURNAL of September 24, page 908.

4. **Present Knowledge of Sero-Therapeutics.**—Bergey calls attention to the fact that recent investigations appear to indicate that a class of immune serums must be formed which possess properties that are entirely different from the antitoxins and the bactericidal immune serums in that they are neither antitoxic nor bactericidal in their action. The best known of this class of serums are the pneumococcus, the staphylococcus and the streptococcus serums. Bergey cautions that too much should not be expected from the therapeutic application of these serums, and says that it is evident that we have a great deal to learn as to the best method of preparation of these serums as well as to the character of the serums themselves and the manner in which they bring about curative results.

5.—See abstract in THE JOURNAL of November 5, page 1410.

6. **Paradoxic Flexor Reflex.**—Gordon has observed a new reflex in cases, the history of which points to organic disease of the nervous system, and especially of its motor tracts; it is always associated with exaggerated knee-jerks; in some cases the Babinski reflex is present, in some not. In a majority of cases Gordon found the sign on the side, where the Babinski was either absent or slight, although in a certain number of cases it was present alongside of a Babinski. It was present in obscure cases in which the Babinski was absent. The reflex is elicited in the following manner: The patient assumes the prone or sitting position, with the feet on a stool. The feet are slightly rotated externally to obtain complete relaxation of the muscles of the leg. The examiner must place himself to the outer side of the leg; the thenar and hypothenar muscles of his right hand are placed on the inner surface of the tibia of the patient and the fingers pressed deeply on the middle or the lower portion of the calf muscles so as to transmit the pressure to the flexor muscles of the deep layer; sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe or of all the toes will be noticed. Gordon examined 30 cases, 2 of spastic paraplegia, 3 specific meningomyelitis, 2 of traumatic myelitis, 1 of ataxic paraplegia, 2 of spinal syphilis, 3 of transverse myelitis, 1 of amytrophic lateral sclerosis, 3 of cerebro-spinal syphilis, 12 of hemiplegia, 1 case of rigidity of the spine with cord symptoms, and 1 case of paresis, with the following result: In 12 cases the reflex was present, together with the Babinski. In 10 cases the Babinski was present, but the paradoxic reflex was absent, or vice versa; and as in 9 cases the Babinski was distinct but the paradoxic reflex slight on the same side, it is seen that in 19 cases, against 12, the two reflexes showed a tendency to replace each other. Only in 6 cases were both reflexes absent at the same time. Gordon has given this sign the name of "paradoxic flexor reflex." He also examined a great number of patients showing an involvement of other portions of the nervous system than the motor tract, also a great many normal individuals, and found that the reflex was inevitably absent in all these persons.

7. **Operative Technic in Ureteral Stone.**—A positive diagnosis having been made of stone in the bladder area by means of the Roentgen ray, Crawford advises its removal by means of a suprapubic cystotomy rather than by the usual extra-peritoneal operation. In the case cited of ureteral stone, Crawford dilated the mouth of the ureter with the end of the index finger, constantly teasing the sphincter for nearly an hour until sufficient dilation was obtained to permit the delivery of the stone, which was one and three-eighths inches in diameter, without laceration of the bladder wall.

Medical Record, New York.

December 3.

8 *The Treatment of Epilepsy in Connection with Auto- and Heterotoxis. Allan McLane Hamilton.
9 Tachycardia and Its Relation to Injuries. U. F. Martin.
10 *Two Cases of Henoch's Purpura. Oliver C. Smith.
11 *Infant Feeding: a Simple and Safe Method for the General Practitioner. F. H. Glasebrook.
12 Physical Examination, Therapeutics and Results of Modern Medicine. A Plea for More Accurate Physical Diagnosis. Warren Schoonover, Jr.
13 Acute Appendicitis Occurring on the Eighth Day of Typhoid; Operation; Recovery. George H. Williams.

8. **Treatment of Epilepsy.**—Hamilton is convinced that

many apparently hopeless cases of epilepsy can be greatly benefited, if not cured, by carefully following ordinary hygienic rules and such means as favor the elimination of waste and toxic products, the institution of proper mental occupation and the avoidance of stress and strain. Hamilton inclines very strongly toward the belief that toxemia, either of gastrointestinal origin or due to the introduction into the circulation of certain familiar cocci, or the generation and accumulation in the blood of cholin, the result of the breaking down of nerve tissue, enters more largely into the pathogeny of epilepsy than is generally supposed. He says that regulation of the diet should include a consideration of the idiosyncrasies of the patient, but nitrogenous food should be interdicted as far as possible. No large quantity of food should be given at any one time. If intestinal autotoxis exists, cholagogues and appropriate ferments, as well as antiseptics, should be prescribed. Everything possible should be done to prevent the lighting up of gross intracerebral pathologic processes and the resulting formation of cholin. The equilibrium of the arterial pressure should be everywhere maintained. Bromids should be given only in doses sufficient to diminish the activity of the cortical motor cells.

10. **Henoch's Purpura.**—Smith cites two cases of this affection. The first, a boy, aged 9, developed purpural spots on the legs and abdomen two days after a blow on the abdomen. The purpura became general, there were severe abdominal pains, and the albuminous urine contained blood. The onset of symptoms pointing to intestinal obstruction necessitated the performance of a laparotomy. The intestine was found collapsed and ecchymotic. The bowel was lifted up and douched, and the abdomen was closed with as much normal saline solution in it as it would hold. The bowels resumed their peristaltic action, and all the other gastrointestinal symptoms gradually abated, but the patient died one month later from a renal involvement, which was not relieved by decapsulation of both kidneys. The second case, a boy, aged 16, was very similar to the first case and was treated in the same manner. Improvement followed and the patient was discharged cured four weeks later. Smith believes that an exploratory laparotomy in cases presenting grave abdominal symptoms, even though purpura may exist at the time, is not only permissible, but indicated. Therefore, Henoch's purpura is not to be regarded as entirely a medical disease. An interesting fact in Smith's cases was that filling the abdomen with salt solution was followed within a few hours by a resumption of intestinal peristalsis and improvement in all the other abdominal symptoms.

11. **Infant Feeding.**—The method of preparing milk for infants is described by Glasebrook as follows: For children under 3 months of age, the top 9 ounces of a quart bottle of milk, that has stood until the cream has separated, are removed by means of the Chapin dipper, and 6 ounces of this are diluted with 24 ounces of dextrinized barley water, for the preparation of which explicit directions are given. One and a half ounces of sugar of milk are also added. A good average milk contains in the top 9 ounces about 12 per cent. fat, 4 per cent. proteid, and 4 per cent. sugar. When diluted as above, the result is: Fat, 2.4 per cent.; sugar, 6 per cent.; proteids, 8 per cent. Any desired strength of these ingredients may be obtained by using more or less of the 9 ounces of milk. For older children, the top 16 ounces are removed. These contain about 8 per cent. fat, 4 per cent. proteid, and 4 per cent. sugar. To 10 ounces add milk sugar and barley water as before. The mixture contains: Fat, 2.35 per cent.; sugar, 6 per cent., and proteids, 1.2 per cent. By adding 1 ounce of sugar to every 25 ounces of food, the sugar percentage is always 6, a good average amount. The percentage of fat and proteid may be varied by using more or less of the top 16 ounces of milk. Glasebrook also says a word in favor of condensed milk, especially in those cases where the infant, owing to careless or ignorant feeding, does not seem to tolerate fresh cow's milk in any form. He has used it in a great many cases which were given up as hopeless, and improvement was almost immediate. This may be explained by the fact that the vacuum process of condensing milk seems to make the curd more assimilable, or it becomes more friable. In order to get the percentage of fat and proteid in correct relation to each other, top milk or cream should be added to an equal amount of condensed milk.

Medical News, New York.

December 3.

14 *Second Note Relative to the More Efficient Utilisation of the Spark-gap Radiations. Henry G. Piffard.
15 *Extrauterine Pregnancy; Its Diagnosis. Report of Cases. Isaac Ivan Lemann.
16 *Pancreatitis. W. D. Haggard.
17 *Laundry Hygiene. Ira S. Wile.
18 Some Remarks on Diphtheria Bacilli. E. Andrade.
19 Intermittent Claudication and Analogous Phenomena (Angina Pectoris, etc.). Arthur J. Patek.
20 *Miscoainia in Medicine. Achilles Rose.
21 A New Case of Chloroma with Leukemia, with a Study of Cases Reported Since 1893. George Dock and Alfred Scott Warthin.

14. **Spark-Gap Radiations.**—Supplementing a "preliminary note" as to the "rays" given out by his "ultra-violet" condensor spark-gap lamp, Piffard says that these rays exert a very powerful influence on the skin; and that the reaction is similar in character to that of the *a*-rays and of radium, and that it appears much more promptly. Like them also, it may produce a curative or a destructive effect, according to the intensity of the spark and the duration of its application. He says that if the appliance be used with a coil, the single Leyden jar should be employed, with inner armature connected with one of the secondary terminals and the outer armature with the other terminal of the secondary of the coil. The lamp is then connected directly to the secondary by its cords. He prefers an interrupter adjusted to give a current of from 5 to 6 amperes through the primary of the coil. The armatures should not exceed 40 square inches of foil in each. This is for the three-spark lamp. For the one-spark "ionizer" a lesser amount of energy is preferable. The first application should never exceed 10 minutes. If the apparatus is connected with a static machine, two Leyden jars are used, the armatures of which should each have a foil surface of at least 100 square inches. The outer armatures of the jars should be connected together, and the lamp terminals connected to the pole pieces of the static machine. The first application should not exceed 15 minutes, with the spark from 15 to 20 millimeters from the lesion.

15. **Extrauterine Pregnancy.**—Lemann believes that this disease is a far more frequent one than is generally supposed, and that our knowledge of it is very indefinite and unsatisfactory. By maintaining an attitude of alertness and by carefully investigating all conditions of menstrual irregularities and colicky pains, Lemann thinks it possible to make an accurate diagnosis and thus save the lives of some patients who otherwise would perish. If the diagnosis is obscure, but there is present a boggy or fluctuating mass on either side of the uterus, an exploratory operation, either through the abdomen or the vaginal fornix, is justifiable.

16. **Pancreatitis.**—Haggard's article is a complete and thorough review of the entire subject.

17. **Laundry Hygiene.**—Wile has studied this question with reference to infection of employes from patrons' clothing, and the infection of patrons through their own clothing handled by the laundry employes suffering from some infectious or contagious disease. The results of his study demonstrate the hopelessness of arriving at a satisfactory solution of this problem. It appears, however, that laundering is an efficient hygienic method of promoting cleanliness without marked danger to the patron and with comparative safety for the employe.

20. **Miscoainia.**—Rose offers this term as a substitute for that proposed by Lombroso, misoneismus, meaning the deep-rooted inclination of mankind to combat new ideas. He calls attention to the rôle miscoainia has played in the history of medicine, and cites a number of instances, such as the introduction of cailsaya bark by Juan del Vego, the discovery of

the circulation by Harvey, percussion by Auenbrugger, Semmelweis's work in connection with the etiology of puerperal fever, and others.

New York Medical Journal.

December 8.

22 *Cases of Epilepsy Cured Without Drugs. Ambrose L. Ranney.
23 Some Observations on the Nonoperative Treatment of Squint; the Worth Amblyoscope. Wm. Campbell Posey and H. Maxwell Langdon.
24 Early Intrauterine Death with Undue Delay in the Occurrence of Abortion Thereafter (Missed Abortion). James Oliver.
25 *Should Pulmonary Tuberculosis Be Treated at Home? R. W. Craig.
26 Pregnancy and Successful Parturition in a Patient with Advanced Carcinoma of the Cervix. Charles A. L. Reed.
27 *An Accident with the Antrum Trocar. Beaman Douglass.

22. Epilepsy.—Ranney's experience in investigating the causes of epilepsy for nearly twenty years has led to the following conclusions: Epilepsy is not necessarily an organic disease; hence, there is always hope of a radical cure. A very large proportion of epileptics suffer from some type of reflex, ocular, abdominal, genital, or other local sources of nervous irritation. Of these reflexes, the eyes are unquestionably the most frequent source of trouble. No medication should ever be employed to control epileptic convulsions until every possible exciting cause has been intelligently sought for and scientifically combated. The refraction of all epileptics should first be carefully determined under the influence of a mydriatic and, if necessary, corrected by properly prescribed glasses, before positive conclusions are arrived at regarding any mal-adjustment of the eye muscles, from which a large proportion of epileptics unquestionably suffer. After the correction of errors of refraction by glasses for a time, the tests for mal-adjustments of the eye muscles should again be made. Ranney considers this step of vital importance, and insists that it should always be done most accurately and scientifically, as one radical and permanent cure of epilepsy without drugs offsets a thousand failures. The percentage of cure of chronic epilepsy under skillful eye treatment will naturally be modified greatly by the abnormal eye conditions found, the physical condition of the patient, the amount of drugs that have been given, and the complications that may co-exist with eyestrain. To colonize epileptics or to place sufferers of that type in private sanitariums without any investigation of the eyes and eye muscles, can not be too strongly condemned, says Ranney. He thinks that a large percentage of epileptics suffer from eyestrain (if there be first deducted from the total number the comparatively small number of cases that owe their epileptic seizures directly to some organic lesion of the brain or to a depression of the skull). The duration of eye treatment in epilepsy varies from three months to three years. Most of the work is done during the first six weeks; but long intervals of rest, between the successive operative steps that are commonly demanded, often extend the period of treatment considerably whenever the convulsive seizures are not totally arrested.

25. Home Treatment in Pulmonary Tuberculosis.—Craig reviews the benefits accruing to tuberculous patients from a residence in a comparatively warm, dry and equable climate, especially that of lower California and Arizona, and compares these with the conditions obtaining in the home treatment of tuberculosis. He says that when carried out under intelligent direction, the results obtained from climatic treatment are in such marked contrast to those secured where patients lived in boarding houses and hotels, that the most skeptical will be convinced of the advantages of the former over the latter.

27. Accident with Antrum Trocar.—Douglass reports an instance where the instrument designed by him perforated the outer wall of the antrum with the result that when water was injected it passed directly into the tissues of the cheek. The patient was put to bed, ice cloths were applied and within forty-eight hours the water had been absorbed without any reaction occurring. In explaining this unusual accident he assumes that the needle was not pushed through the nasal wall in the proper place, or that the antrum was very small or entirely absent. He advises caution in the use of the trocar.

Boston Medical and Surgical Journal.

December 1.

28 *Certain Unfavorable Calamities Following Surgical Operations. Maurice H. Richardson.
29 Pulmonary Tuberculosis and Sanatorium Treatment. Vincent Y. Bowditch.
30 *Mechanical Restraint and Seclusion of Insane Persons. Charles W. Page.
31 *Pott's Disease. Treatment at a Late Stage. Remarks on the Pathologic Anatomy. E. W. Taylor.

28. Unavoidable Calamities Following Surgical Operations.—The conditions discussed by Richardson are suppression of urine following hysterectomy; infection of the knee-joint, general septicemia and death following arthrotomy; postoperative hemorrhage; phlebitis following abdominal operation and after operations on the uterus or ovaries with subsequent pulmonary embolism; septic meningitis following myomectomy, and sudden death from pulmonary embolism after abdominal operations; fatal capillary hemorrhage following operation on jaundiced patients, and postoperative death for which no adequate cause can be found. Six illustrative cases are cited, distributed over a period of fifteen years, and among some five thousand abdominal operations. Richardson is of the opinion that these disasters can not be foreseen and prevented, and that such cases must be looked on as the hazard of any surgical operation.

30. Mechanical Restraint and Seclusion of the Insane.—Page decries these methods of treating the insane. He says where restraint is permitted the general spirit of the management breathes coercion, antagonism and enforced submission. When non-restraint is the undeviating rule, tact, persuasion and sympathy soften and mellow every act towards the patients. The employment of mechanical restraint gives the attendants a wrong sense of their personal power over patients, such a physical advantage that they instinctively incline to self-assertion; to issue peremptory commands; to use ill-considered, irritating speech; to make threats; in short, to intimidate all but the most quiet patients. His experience in an insane hospital has convinced him that being in earnest is the solution of the non-restraint question. The ruling authority over and above the nursing staff must be in earnest; and this signifies clear insight as to the evil and its remedy; certainly as to what can be done with the insane by virtue of patience, sympathy and tact; with determination, watchfulness, faith and enthusiasm.

31. Pott's Disease.—The case cited by Taylor is interesting from the fact that the disease developed in an adult male, aged 45, following an attack of typhoid fever, that the process in the spine progressed steadily to involvement of the cord, resulting in a practically complete paraplegia, and that persistent treatment produced a definite amelioration of the condition in spite of the serious damage to the cord, as shown at the postmortem held five years after the onset of the trouble. Although the patient was otherwise non-tubercular, there was tuberculous disintegration of the lower thoracic vertebræ; constriction of the lumen of the spinal canal; widespread degeneration and deformity of the cord at the level of the eleventh dorsal vertebræ; secondary degeneration above and below this level. There was no intradural tuberculosis. The onset of the disease was rapid. There was marked predominance of motor over sensory symptoms in spite of extensive degenerations in the sensory areas. The extreme local injury to the cord was suggestive of a myelitis.

St. Louis Medical Review.

December 2.

32 Inhibitory Action of X-ray on Malignant Growths. George C. Johnston.
33 Treatment of Skin and Glandular Diseases by the X-ray. Russell H. Boggs.

Lancet-Clinic, Cincinnati.

December 2.

34 *The Treatment of the Morphin Habit. Curran Pope.
35 *Perineal Prostatectomy. Joseph Rilus Eastman.
36 Pathology and Treatment of Internal Hemorrhoids. Wells Teachnor.
37 Case Report—Tubercular Peritonitis Treated with Cinnamon Oil. Wm. Muhlberg.

34.—See abstract in THE JOURNAL of Nov. 12, page 1491.

35.—Ibid., Oct. 29, page 1328.

American Journal of the Medical Sciences, Philadelphia.

November.

36 *A Study of Ulcer of the Stomach and Duodenum. Campbell F. Howard.
39 *Intermittent Hyperchlorhydria as an Occasional Cause of Recurrent Vomiting in Children. Irving M. Snow.
40 *Medical Treatment of Gastric Ulcer. Samuel W. Lambert.
41 *Surgical Treatment of Gastric Ulcer. Joseph A. Blake.
42 Case of General Miliary Tuberculosis with an Open Foramen Ovale as a Factor in Its Production. Walter H. Buhlig.
43 A Bicephalous Monster. Theodore D. Appel.
44 Two Cases of Violent but Transitory Myokymia and Myotonia Apparently Due to Excessive Hot Weather. David L. Edsall.
45 Papilloma of the Bladder Complicated with Pyonephrosis, with Remarks on the Surgical Treatment of Papilloma. Charles Greene Cumston.
46 *Some Unsettled and Important Problems in the Treatment of Acute Lobar Pneumonia. Beverley Robinson.
47 *Cerebral Rhinography. G. E. Pfahler.
48 The Presence of Organic Acid in the Urine in Cases of Rheumatoid Arthritis. Helen Baldwin.
49 *The Diagnostic Value of Leucocytosis. G. W. McCaskey.
50 The Presence of Air in the Veins as a Cause of Death. James S. Greene.

38. Study of Gastric and Duodenal Ulcer.—Howard's study is based on a series of 82 cases of round ulcer that occurred in the Johns Hopkins Hospital during a period of about fifteen years, or 0.18 of the total number of cases admitted. In this series there were 7 duodenal ulcers. As compared with gastric cancer, the respective incidences were 1 to 225 and 1 to 56 general admissions. In the hospital mentioned, gastric ulcer is, relatively, as common in men as in women, the contrary to the usual idea. In the male the percentage of greatest frequency was between the ages of 40 and 50, a decade later than usual; while in females it was, as usual, in the third decade. The cases were relatively more frequent in the colored race than in the white, the ratio being 4.5 to 1. Ulcer is also, relatively, more frequent among the Germans. Vomiting occurred in 85.3 per cent.; pain in 82.9 per cent., and hematemesis in 75.6 per cent. In 36 cases there was a loss in weight of more than 10 pounds, and in 9 of 40 pounds or more. Hyperchlorhydria was present in only 17.6 per cent. Heredity played little or no part. In 47 of the cases there was a definite history of previous stomach trouble. In the majority it was described as indigestion. There was a positive history of trauma in 7 cases. In 53.6 per cent. of cases there was a history of the use of alcohol, and in 19.5 per cent. to excess. In 15.8 per cent. there was a definite history of syphilis—either recent or old. Tuberculosis in one or another of its manifestations was present in 13.4 per cent. of the cases. Arteriosclerosis was present in 48.9 per cent.; to a marked degree in 22 per cent. In 50 per cent., pain was the chief complaint; in 47.5 per cent., stomach trouble; in only 6 per cent. was the history of vomiting of blood volunteered by the patient. Only 8 cases (9.7 per cent.) might be termed acute; the remaining 74 existed for periods ranging from two months to twenty years. The blood picture was one of chloranemia (hemoglobin, 58 per cent.; red blood corpuscles, 4,071,000; white blood corpuscles, 7,500). Hemorrhage was the cause of death in 8.5 per cent. of the total number of cases, and in 29.5 per cent. of the fatal cases. Perforation was rare (3.6 per cent. of the series). General peritonitis occurred in but one instance (1.2 per cent.). Ulcus carcinomatosum was rare—4.8 per cent. of the series. The average duration of the disease for the entire series was 4.1 years. Howard concludes that operation is indicated in all cases of perforation or perigastric adhesions and in cases of copious or recurring hemorrhage, when medical means have failed after a fair trial. The results obtained in the 82 cases are tabulated as follows: Died, 24 (29.3 per cent.); well, 14 (17.1 per cent.); improved, 39 (47.6 per cent.); unimproved, 3 (3.6 per cent.); not treated, 2 (2.4 per cent.). In the cases that received treatment there was a mortality of only 18.8 per cent.; and in those receiving medical treatment alone, 8.6 per cent. Eleven of the 24 fatal cases died from some intercurrent affection, the ulcer being recognized only at autopsy. There were 16 deaths among the males and 8 among the females.

39. Intermittent Hyperchlorhydria and Recurrent Vomiting in Children.—The object of Snow's paper is to direct attention to the curious symptom-complex called cyclic, periodical, or recurrent vomiting of children, with the idea (1) that the condition is not as rare as is generally supposed; (2) that it is relatively easy of diagnosis, an examination of the vomited matter being most important; (3) that at least in some cases the gastric irritability is due to an intermittent hyperchlorhydria, a secretory neurosis, causing the sudden hypersecretion of free hydrochloric acid and gastric juice. Vomiting is the main symptom of the malady and the subject, except for the attacks, is in perfect health. The vomiting attacks occur at irregular intervals, begin with slight premonition, continue usually a few days, and cease suddenly, leaving the patient with an unimpaired appetite and digestion. Snow advises that the alkaline treatment should always be tried, although it is difficult to estimate the effect of treatment in an affection that may terminate spontaneously at any time. In dangerous conditions nutrient enemata, chloral by rectum, and hypodermics of morphin and strychnin may tide the patient over a dangerous crisis.

40. Medical Treatment of Gastric Ulcer.—The therapeutic indications are formulated by Lambert as follows: First.—To assist nature in the process of repair. (a) By regulating the diet. 1. To protect the ulcer from mechanical injury and consequent further extension of the ulceration. 2. To keep the ulcer at rest. (b) By administration of drugs. 1. To stimulate cicatrization. 2. To cover and protect the ulcer from chemical irritation. 3. To neutralize the gastric acidity, whether due to the normal acid or to any of the abnormal acids of fermentation. (c) By improving the general health, by careful feeding and hygiene. Second.—To prevent loss of flesh and strength by feeding through other channels than the stomach. Third.—To combat individual symptoms and complications as they arise. Lambert lays great stress on rest in bed and milk diet. During the rest the patient should receive daily alcohol spongings and baths, and mild forms of massage to the arms, legs and back. Rectal feeding is begun as soon as the patient is settled in bed, nothing but water and pieces of ice being given by mouth, for from four days to a week, according to the severity of the case. The treatment of complicated as well as of uncomplicated cases is discussed in detail by Lambert, but nothing new is offered. During the past 10 years 52 cases were admitted to the hospital, 4 being relapses of cases previously treated. Of the 52 cases, 11 died, a mortality of 21.15 per cent. Thirty-five cases were treated in the medical and 17 in the surgical wards. Of the former, 30 had hematemesis, 2 of whom died; 3 abandoned treatment in from 2 to 4 days, and the remaining 2 were cases of relapse, occurring without hemorrhage. Of the 17 cases admitted to the surgical division, 3 were admitted moribund, suffering from a general perforative peritonitis, and all died without interference. Of the 14 cases operated on, 1 died after an operation to relieve a cicatricial stenosis; 2 cases were operated on for gastralgia, and in both healed ulcers only were found; 3 cases were operated on for hemorrhage, and of these 2 recovered and 1 died. Eight cases of peritonitis due to a perforated ulcer of the stomach were operated on, with a mortality of 50 per cent. Lambert concludes that the statistics of these few cases do not allow of any particular generalization, except to emphatically point out the fact that surgical procedure, in certain cases, offers the only road to recovery.

41. Surgical Treatment of Gastric Ulcer.—Blake considers the surgical treatment of phases of gastric ulcer, namely, perforation, cicatricial contraction and obstruction, hemorrhage, and chronic gastric ulcer, *per se*, and concludes that it should be, at least, largely surgical. Surgical treatment, he says, should be instituted not as a last resort but before the starvation, the long suffering from pain, dyspepsia, and fermentation absorption have reduced the patient until he is beyond surgical help.

46. Acute Lobar Pneumonia.—Robinson urges that judicious rational treatment should be begun immediately and continued during the attack. The most useful single agent, as a preventive and curative, is creosote, used preferably as inhalations, properly given and continued for a sufficient length of time. Extremes of treatment in any direction, whether toward the use of so-called specifics or the employment of certain drugs, notably digitalis and strychnin, should be strictly avoided.

47.—See abstract in THE JOURNAL of Sept. 24, page 900.

49. Diagnostic Value of Leucocytosis.—McCaskey considers a routine enumeration of the white cells in the peripheral blood of sufficient importance to be made a regular procedure, so far as possible, in all cases. A single leucocyte count is entirely insufficient as a basis of conclusion in any given case, and should be followed up by several made under different conditions. An increase beyond 10,000 or 12,000 leucocytes in the peripheral blood indicates varying grades of intoxication with chemotactic substances of some sort or another. The leucocytes indicating suppuration are the neutrophiles, while the eosinophiles indicate particularly cutaneous affections or parasitic diseases. Lymphocytosis signifies an irritative lesion of the lymphatic apparatus. Therefore, a differential count should be made in all cases to determine the type of cell which has been the subject of the principal increase, where such increase exists, and such records carefully kept and collated as a basis for the determination of the clinical significance of leucocytosis in the future. In the diagnosis of malignant disease, McCaskey has found a leucocytosis to be of very subordinate value, and when present is probably not due to the malignant disease *per se*, but to co-existing chemotactic toxins.

Medical Age, Detroit.
November 25.

51 *A Contribution to the Study of the Prognosis of Syphilis. Noah E. Aronstam.

51. Prognosis of Syphilis.—According to Aronstam, syphilis is a curable affection, provided treatment is begun early and as faithfully and persistently carried out. He says that at least three, if not four, years of continuous treatment is required to bring the morbid process under control, with all dangers of recrudescence eliminated. The indications of the total cessation of the destructive condition consist of the absence of all manifestations and lesions for a period of not less than two years, a steady gain of body weight, or at least no loss of same, and the propagation of healthy children. Unfortunately, concludes the author, these indications are, at the present juncture of our knowledge of the prognosis of syphilis, far from positive and reliable.

Archives of Ophthalmology, New York.
November.

52 *Case of Melanosarcoma of the Limbus in an Eye with Normal Vision, Followed by Enucleation. George Houston Bell.
53 Clinical Contribution to the Study of the Innervation of the Iris. C. Magnani.
54 Important Clinical Points in Perimetry, with Special Reference to Traumatic Neurosis. I. Wolfberg.
55 *Gonococcus Theory. Herman Urbahn.
56 Cortical Reflex of the Pupil. O. Haab.

52. Melanosarcoma of Limbus.—Bell reports a case of alveolar melano-sarcoma of the limbus. The iris and fundus were normal and the vision was 20/20 plus. There was paralysis of the external rectus muscle and a consequent diplopia. The preauricular glands on the left side were the only ones that were enlarged. The eye was enucleated and all the external rectus muscle was removed. Healing after the operation was normal and uneventful. Bell has reviewed the literature on the subject very carefully and concludes that most cases of epibulbar sarcoma demand radical treatment just as soon as the diagnosis is confirmed microscopically. He believes that it is unfair to jeopardize the life of the patient by a compromise in the treatment in the way of an abscission because that operation is useless. In 44 cases of abscission, recurrences occurred in 36.

55. The Gonococcus Theory.—Urbahn, who has devoted considerable time to the study of the morphology and biology of the gonococcus, says that this germ will grow in the ordinary nutritive media, but that glycerin-agar alone is not sufficient for a differential diagnosis. Jellied blood serum, in connection with glycerin-agar, may suffice to distinguish gonococci from similar cocci, especially from the meningococci and nearly related varieties. There appear to be bacteriologic differences between various stocks of gonococci, but it remains to be determined whether these differences exist clinically. Whatever other differences may be found, the three characteristics of form, staining, and relation to pus corpuscles must be possessed by all varieties of cocci to enable them to be classed as gonococci, and until it has been determined whether or not the gonococcus is a distinct variety with special characteristics, that name should be reserved for it alone, and the name pseudogonococcus be avoided.

Annals of Gynecology and Pediatry, Boston.
November.

57 *Embolism Following Operation. Sam S. Dearborn.
58 *Pregnancy Complicated by Tumors of the Uterus. D. S. Fairchild.
59 The Value of Postoperative Local Treatment in Gynecology. J. Riddle Goffe.
60 Hysteropexy Regarded with Reference to Its Influence on Subsequent Pregnancy. (Continued.) M. Oui.
61 The Early Diagnosis of Cancer of the Fundus. Hunter Robb.

57. Embolism Following Operation.—In order to obtain more definite information as to the occurrence of postoperative embolism and all factors connected therewith, Dearborn addressed a circular letter to twenty-five of the most prominent surgeons of Boston and vicinity. The replies to these letters appear to show that thrombosis and embolism are more common after operations in the pelvis than after operations in any other part of the body. Further, that it is possible that many cases of pleurisy, pneumonia and pulmonary abscess following operation are due to emboli. Large emboli almost always cause speedy death by syncope or asphyxia; very small emboli usually run a favorable course. Dearborn says that any sudden increase in pulse rate during convalescence, temperature remaining about normal, should remind one of the possibility of thrombosis, and that, if there are evidences of phlebitis or of thrombosis, absolute rest in bed must be insisted on.

58. Uterine Tumors Complicating Pregnancy.—Fairchild holds that the discovery of a tumor complicating pregnancy is no certain indication for an operative procedure even when it is first apparent that mechanical difficulties of a very grave nature exist, but a watchful care should be exercised, and when it is found in the first four months that the uterus can not rise into the abdominal cavity, or that an abortion is almost certain to occur, the abortion should be left to nature or a supravaginal hysterectomy made. If the uterus is advancing into the abdominal cavity, no interference should be permitted unless grave pressure symptoms should appear as a remote probability, amounting to almost a certainty, when a supravaginal hysterectomy may be made. If, in the later months of pregnancy, a tumor springing from the neck or the lower segment of the uterus threatens to block the pelvis and seriously interfere with delivery, the question of removing it may be considered in anticipation of labor at about the seventh month. In the great majority of cases, when the immediate and seeming dangers are past, the case will go on to the period of labor to be treated according to the indications present at that time, either through the spontaneous effort of nature or by some operative procedure, probably cesarean section and a Porro operation.

Southern Medicine and Surgery, Chattanooga.
November.

62 *A Review of the Histories of One Thousand Consecutive Cases of Appendicitis. A. J. Ochsner.
63 The Management of Typhoid Fever. George E. Pettey.
64 *A Successful Treatment for Delirium Tremens. George E. Pettey.

62. Review of One Thousand Consecutive Cases of Appendicitis.—The following classification is made by Ochsner of these cases: Chronic appendicitis or interval operations, 540; mortality, .5 per cent. Acute appendicitis without perforation, 253 cases; mortality, 1.9 per cent (of these 6 entered the

hospital within 36 hours after the beginning of the attack). Acute appendicitis, perforated or gangrenous, without abscess, 55 cases; no deaths (of these, 5 entered the hospital within 48 hours after the beginning of the attack). Acute appendicitis, perforated, with abscess, 117 cases; mortality, 3.4 per cent. Acute appendicitis, with diffuse peritonitis, 33 cases; mortality, 30 per cent. Of the total number of 1,000 cases, 22 died, giving a mortality percentage of 2.2. Of the 255 acute appendicitis cases without perforation, 200 were operated on immediately on entering the hospital and 55 were treated by gastric lavage and absolute prohibition of food and cathartics of every kind by mouth, the nutrition being accomplished by means of small enemata. Of the 55 cases perforated or gangrenous, but without abscess, 21 were operated on at once and 34 were first starved until they seemed in a safe condition for operation. In most of these cases the appendix was completely surrounded by the omentum and held away from all other intra-abdominal structures. Of the 117 cases of acute appendicitis in which abscess had formed, 39 were operated on at once and 78 were treated by prohibition of all nourishment and cathartics by mouth until their condition seemed sufficiently improved to make the operation appear safe. Of the 33 cases entering with diffuse peritonitis resulting from perforated or gangrenous appendicitis, all were treated at first with gastric lavage and exclusive rectal feeding. Of this class, a number were in a dying condition when they arrived at the hospital, which accounts for the high mortality in this class of cases. Seven of these cases were not operated on for the reason mentioned, but they are counted among the deaths in order to include the entire mortality of all cases treated. Among the 3 deaths in 540 cases of chronic appendicitis, with interval operations, one case, a weakly woman, 27 years of age, who had been ill much of the time during her entire life, had an acute attack of appendicitis two years before entering the hospital and a second attack one year later, since which time she had never been free from pain. The appendix was adherent, partially obstructed at the cecal end, and contained a small amount of pus; pelvis secondarily infected, uterus retroverted and adherent together with ovaries and tubes in pelvis. The patient died four weeks after operation from exhaustion, probably due to absorption from the raw surface in the pelvis. Ochsner suggests that if this case had been drained the patient would probably have recovered. The second case was that of a married woman who previously had suffered from puerperal infection, and for 12 years had constantly suffered from subacute appendicitis following an acute attack. This patient, too, died from exhaustion. In the third case the chronic appendicitis was complicated with a double pyosalpinx necessitating the removal of both tubes, the right ovary and the appendix. The patient succumbed to the loss of blood incident to the ligature cutting through the ovarian artery. Ochsner feels that these three deaths could have been avoided if the operation had been confined to the removal of the diseased appendix. In the next group the five patients who died were operated on immediately on entering the hospital because their condition seemed to indicate that the infectious material was confined to the appendix. Ochsner says that if these five cases had been added to the 55 cases of this group in which gastric lavage was employed and which received neither food nor cathartics by mouth, it is likely that 3, or possibly 4, might have recovered. In all these operations he endeavored to reduce the traumatism to a minimum. All unnecessary manipulations were avoided. The surrounding peritoneal cavity was protected with warm, moist gauze pads. In cases of circumscribed abscess the appendix was removed when it seemed as though this could be accomplished safely. Drainage was used whenever it seemed as though the peritoneum might not be capable of disposing of any infection which might remain. It is much better, says Ochsner, to drain too often than to err in the opposite direction. Irrigation was not employed in any of these cases, because his experience was less satisfactory when this means was frequently employed. Ochsner concludes from these observations that in the treatment of acute appendicitis neither food nor cathartics should be given by the mouth, that large enemata should never be given, and that gastric lavage should be employed, especially in patients suffering from nausea or vomiting.

64. **Treatment for Delirium Tremens.**—Pettey advocates the free administration of veratrum viride and cites several cases in which results were extremely satisfactory. In cases where the administration of this remedy was begun within from four to six hours from the beginning of the delirium, the mind would be clear in from three to four hours, but in cases where the delirium had continued for a longer period a longer time was required to overcome it. A full initial dose should be given and then the dose should be repeated as often and in such quantities as are necessary to establish the full physiologic effect of the remedy. The pulse should be brought down to fifteen or twenty beats below normal and held there until the circulation has become fully equalized and the mind becomes clear. In the meantime, free purgation should be obtained to remove the toxic matter from the system and thus remove the exciting cause of the delirium. In one case, Pettey gave an initial dose of 12 minims (27 drops) of Norwood's tincture hypodermically. An hour later the effects of the drug began to be manifested, and in another half hour the patient was given 6 minims more of the veratrum. At the end of fifteen hours he awoke and had no further trouble.

Interstate Medical Journal, St. Louis.

November.

65 Strabismus: the Necessity for Its Early Treatment. Harry C. Baker.
66 The Female Breast; Some of Its Notable Characteristics as to Structure and Functions, Their Elements and Pathology. Thomas H. Manley.
67 *The Recognition of Important Eye Lesions by the General Practitioner. G. F. Suker.
68 Typhoid Perforation—a Favorable Case. Francis Reder.

67.—See abstract in THE JOURNAL of Oct. 22, page 1251.

The Alienist and Neurologist, St. Louis.

November.

69 Insane Suicide, Insane Homicide or Murder, Which? A Study of the Mooney Case. James G. Kiernan.
70 Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
71 Microscopic Adolescent Survivals in Art, Literature and Pseudo-ethics. James G. Kiernan.
72 The Louisiana Purchase Exposition, the Neurasthenic and the Brain-tired. Charles H. Hughes.
73 Heredity: Its Influence for Good or Evil. Martin W. Barr.

Richmond Journal of Practice.

October.

74 The Attitude of Physician and Patient to the Science and Art of Medicine. William S. Gordon.
75 Intestinal Perforation in Typhoid Fever. Hugh M. Taylor.

Detroit Medical Journal.

November.

76 Pathology of Prostatic Hypertrophy. Max Ballin.
77 Symptoms of Prostatic Hypertrophy and Some Remarks on Treatment by Perineal Operation. Frederick W. Robbins.
78 Recent Progress in Roentgen Ray Technic. Preston M. Hickey.
79 Urinary Conditions in Hysteria; with a Report of Three Cases of Hysterical Anuria. Herbert M. Rich.
80 Nomenclature of the Various Affections of the Mastoid. Emil Amberg.

St. Louis Courier of Medicine.

November.

81 Excision of the Knee-joint, with Report of Case. A. J. Steele.
82 The Surgery of Typhoid Fever. W. W. Keen.
83 Remarks on the Surgery of Typhoid Fever. Norvelle W. Sharpe.

American Practitioner and News, Louisville.

November 1.

84 Report of Eye Cases. Wm. Cheatham.
85 Acute Gangrenous Cholecystitis, with Report of Cases. F. W. Samuel.

Oklahoma Medical News-Journal, Oklahoma City.

November.

86 Medicolegal Evidence in Poisoning by Nux Vomica and Its Alkaloids. Charles Blickensderfer.
87 The Surgeon's Assistant. (Preparation for an Operation.) F. L. Clark.
88 Railway Surgeon's Duty to the Employes. A. F. Grayson.

Medical Fortnightly, St. Louis.

November 15.

89 Some Experiences in the Treatment of Cystitis. B. B. Griffith.
90 Auto-intoxication. C. W. Pfeiffer.
91 Fracture of the Dorsal Vertebra. Berton W. Hole.
92 The Practical Value of the Immunity Theory. A. F. Wassermann.

Canadian Practitioner and Review, Toronto.
November.

93 The Medical Society: Its Place and Equipment. John Hunter.
94 Adeno-myoma des Uterus. Thomas S. Cullen.
95 Blitz Ligature in Intestinal Anastomosis. A. Groves.

Buffalo Medical Journal.
December.

96 Care of the Insane. C. A. Van Der Beek.
97 A Recent Epidemic of Scabies. E. Wood Ruggles.
98 The Treatment of Infected Wounds of the Extremities. Marshall Clinton.

Woman's Medical Journal, Toledo.
November.

99 The Mammary Gland and Lactation Influenced by Anatomic Conditions Disturbing Circulation. Mary E. Bates.
100 Abortion Complicated by Hemorrhage and Hysterical Elbow. Elias H. Root.
101 Lung and Intestinal Troubles in Young Children. Kate Wilde.
102 Children's Diseases in China. Mary V. Glenton.

Virginia Medical Semi-Monthly, Richmond.
November 25.

103 Other Sera, Including Those of Typhoid Fever, Cholera, Dysentery and Tuberculosis. Enslon G. Williams.
104 Organotherapy. L. G. Pedigo.
105 The Treatment of the Diseases of the Liver. Hubert Richardson.
106 Random Notes of a Physician's Vacation. James Dudley Morgan.
107 Prognosis. John M. Batten.
108 The Papillomata and Their Degenerations. Wm. de Berniere Macalder.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
November 26.

1 *Trypanosome Diseases. Robert Koch.
2 *"Tick Fever." Phillip H. Ross and A. D. Milne.
3 Note on the Rôle of the Horsefly in the Transmission of Trypanosoma Infection, with a Reply to Colonel Bruce's Criticisms. Leonard Rogers.
4 Trypanosomiasis in the Anglo-Egyptian Soudan. (Preliminary Note.) Andrew Balfour.
5 Sleeping Sickness (Trypanosomiasis); the Prevention of Its Spread and the Prophylaxis. Cuthbert Christy.
6 Bacteriology of Certain Parts of the Human Alimentary Canal and of the Inflammatory Processes Arising Therefrom. John T. Hewetson.

1. **Trypanosome Diseases.**—Koch's paper is a historical review of the general morphology and symptoms of tsetse fly disease, surra, mal de Caderas, sleeping sickness, and a classification of trypanosome diseases, a review of immunization experiments and the prophylactic measures to be employed for the prevention of these affections.

2. **Tick Fever.**—Ross and Milne give the results of their observations in eight cases of fever following the bites of ticks, the *Ornithodorus savignyi*. These ticks are of a grayish-yellow color and vary in size up to the dimensions of a little finger nail. Their habitat is in the old and dirty thatch of huts and in the cracks of mud walls and mud floors, where they secrete themselves during the day, coming out at night to feed. The incubation period varies from one to five days. The most prominent symptoms of the fever are severe pains in the head, mostly in the occipital region, sometimes cough, pains in the back and the limbs, sometimes splenic tenderness, vomiting; pulse varies from 90 to 120; half of the cases observed had diarrhea. The skin is hot and dry, the conjunctivæ are congested and the tongue is mottled with a slight yellow fur. All the cases seen by the authors made a good recovery, though the treatment is practically nil.

The Lancet, London.
November 26.

7 *The Treatment of Enteric Fever. F. Foord Caiger.
8 The Life History of Saprophytic and Parasitic Bacteria and Their Mutual Relation. E. Klein.
9 *Clinical Observations on the Anesthetic Effects of Methyl Oxide, Ethyl Chlorid and the So-called "Somnoform." Frederic W. Hewitt.
10 *Memorandum on the Red Light Treatment of Smallpox. J. T. C. Nash.
11 Further Note on the Red Light Treatment of Smallpox. T. F. Richetts and J. B. Byles.
12 The Mechanism of the Aortic Valves in Health and Disease. R. J. Ewart.

7. **Treatment of Enteric Fever.**—Caiger's paper considers this subject under the following headings: 1, Specific treatment; 2, antipyretic, and 3, antiseptic treatment. After reviewing the results obtained by the serum treatment of typhoid fever and by previous inoculation with attenuated cultures of the typhoid bacillus, and urging further investigations, the author says a word in favor of the cold bath as an antipyretic. But the principal topic of his paper is the use of the essential oil of cinnamon as an antiseptic. His results have been favorable. He has treated 147 cases with the cinnamon and of this number 14 died, representing a mortality of 9.5 per cent. After careful observation of the progress of the individual cases comprising the series, Caiger expresses the firm conviction that in the large majority of attacks the influence of the cinnamon was a good one, and that a certain proportion of the patients who recovered would not have done so had the cinnamon been withheld and the treatment conducted on purely expectant lines. The favorable effects which were noted as attending the administration of the drug were: 1. The temperature in the majority of cases ran at a lower level than is customary in enteric fever, the mean of the daily records taken every four hours approximating 101 instead of 102 or more during the full development of the fever. This effect was a good deal more pronounced in cases brought under treatment at a comparatively early stage of the disease. 2. The patients remained for the most part drowsy throughout their illness, many of them evincing a constant tendency to sleep, as a result of which mental rest was secured and delirium was less frequent. Here, again, the good effect of early treatment was apparent. 3. Intra-intestinal decomposition, as evidenced by abdominal pain, distension and fetor of the stools, was controlled to an extent which was really very striking. That the oil of cinnamon is especially efficient as an intestinal antiseptic is evidenced by the fact that, with the exception of several patients in whom the condition was present at the time of their admission to the hospital, no single instance of meteorism occurred among the 147 cases which were treated with it. To obtain the full effect of the cinnamon a dose of from 2½ to 5 minims of the essential oil should be given every two hours from the time the case first comes under treatment until the temperature has fallen to normal. Caiger is in the habit of continuing its administration every four hours during the first week of convalescence and then three times a day for a week longer. It is well, however, to give the drug in smaller doses to begin with so as to accustom the patient gradually to its very pungent taste. By commencing with a dose of 2½ minims and increasing it to 4 or 5 minims in the course of a few days, the likelihood of vomiting being induced by the cinnamon is materially diminished. Care should be taken that the quality of the oil is above reproach. The better quality oil is distilled from the cinnamon bark, and this only should be used. The oil distilled from the leaves of the tree should never be used medicinally. In view of the fact that in three instances progressive cardiac enfeeblement developed where there was no special reason to anticipate its occurrence, Caiger adopted the practice of giving a grain of sulphate of quinin with each dose of the cinnamon in all cases where a careful daily physical examination reveals a suspicion of cardiac failure. The result has so far been reassuring. Bacteriologic experiments have shown that an appreciable, though slight, inhibitory influence on the growth of the typhoid bacillus begins to be exerted by cinnamon oil in a dilution of about 1 in 26,000, and that when its strength approaches 1 in 1,000, its antiseptic effect is complete. The paper concludes with a consideration of the expectant plan of treatment, and the treatment of special forms of typhoid as well as the complications of the disease.

9. **Methyl Oxid, Ethyl Chlorid and Somnoform.**—Hewitt has made a very careful study of the anesthetic effects of these substances, and his paper may be summarized as follows: When methyl oxid is largely diluted with air, the mixture does not produce a very satisfactory form of anesthesia. Mixtures sufficiently concentrated to produce satisfactory anesthesia are too pungent to be pleasant. As compared to the anesthesia obtainable by customary means, that produced by methyl oxid is of like type and is not uncommonly followed by nausea and distress. Although a long administration may

lead to a long available anesthesia, unpleasant after-effects are liable to result. As with other anesthetics, it is difficult to produce a satisfactory analgesia. Ethyl chlorid is a useful anesthetic for certain cases. It is a fairly good substitute for nitrous oxid when this gas can not be obtained. It is, however, somewhat uncertain in its action. Its chief drawback lies in the frequency with which it produces unpleasant after-effects—headache, nausea, vomiting and an undescribable feeling of depression. As a routine anesthetic for short dental operations ethyl chlorid is distinctly inferior to nitrous oxid and oxygen, although it produces a longer anesthesia. In small children, who are about to undergo some brief dental or throat operation, and in those adults who are bad subjects for nitrous oxid or nitrous oxid and oxygen, ethyl chlorid will generally answer well. By adding ethyl chlorid to nitrous oxid a very deep form of anesthesia is induced with extraordinary rapidity, the method having the advantage of destroying consciousness more pleasantly than with ethyl chlorid alone. Somnoform does not produce such good results as pure ethyl chlorid and is distinctly more dangerous.

10. **Red Light in Smallpox.**—Nash reports three cases which he thinks were benefited by the red-light treatment. The first patient, an unvaccinated boy between 9 and 10 years of age, was admitted on the eighth day of the disease, when suppuration was imminent and the course of his temperature showed evidence of slight secondary fever, but even this, says Nash, was lessened by red-light influence. The second patient, a boy, aged 3 years, was vaccinated for the first time on the day of his admission to the hospital. The eruption appeared two days later, the initial symptoms being very severe. There was no suppuration, and on convalescence only five small scars were left. The third patient, a woman, aged 33, vaccinated, was admitted on the second day of the disease. There was no suppuration or secondary fever. These three cases were of the discrete type. By having red panes fitted to the windows ventilation was not interfered with, nor were red curtains hung about to exclude rigidly every possible ray of ordinary light. Such a procedure Nash considers both unhygienic and uncalled for.

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 1905.

13 (LXVIII, No. 35.) *Thermoatrophore. Oswalt.
14 (No. 36.) Sur une mission relative à l'étude des Instituts vaccinogènes à l'étranger et sur la transformation du service de la vaccine de l'Académie en Institut vaccinogène supérieur. Kelsch.
15 *La cure marine de la scrofule. A. d' Espine.
16 (No. 37.) Inauguration du monument de L. Ollier. Guyon. See news columns last week.

13. **Application of Superheated Air to the Eye and Face.**—Oswalt's apparatus permits the local application of superheated air to any part of the face. His tests have shown that the open eye can tolerate, without injury, a temperature of 180 C. The sensitiveness of the lids is the only obstacle to still higher temperatures. The heat is supplied by a gas jet under a spiral tube connected with a rubber bulb. He has found this an effectual means of curing rebellious blepharitis, keratitis, chronic iridochoroiditis, and especially neuralgia and tic douloureux. Gautier presented the apparatus to the *Académie* and added that he could speak from experience as to its efficacy; it had relieved him of a neuritis of the brachial plexus which had proved rebellious to all other measures.

15. **Seaside Treatment of Scrofula.**—D'Espine reports the work done at the Dollfus asylum in Cannes since 1886. About 950 children have been received during this period, all but about 150 being scrofulous and tuberculous. The results observed proclaim anew the importance of the sea air and bathing for such children, combined with a mild climate which allows them to be out in the sunshine all day and to have the windows open at night. Tuberculous peritonitis also seems benefited by these factors.

Presse Médicale, Paris.

17 (No. 85.) *Regles opératoires pour la guérison de la méningite purulente aigue généralisée. M. Lermoyez and L. Bellin.
18 Hystéro-traumatisme oculaire et accidents de travail. F. de Lapersonne.
19 De l'interrogatoire d'une malade au point de vue gynecologique. F. Jayle.
20 (No. 86.) *Sérothérapie de la fièvre typhoïde. Chantemesse.
21 (No. 87.) Report of French Congress of Internal Medicine.
22 *Thrombo phlébite méseraïque primitive. Mignon and Dopter.
23 Les doses considérées en tant que facteur variable en thérapeutique. F. De Ybarra.
24 (No. 88.) *Nouvelle méthode permettant l'étude de la motricité et de la sécrétion vraie de l'estomac (of stomach). L. Meunier.
25 (No. 89.) Transmissibilité de la dysenterie amibienne en France. (Commenced in No. 84.) C. Dopter.
26-29 *Report of French Congress of Surgery.
30 (No. 90.) *Pain in Movable Kidney.—De la douleur dans le rein mobile. Th. Tuffier.
31-36 *Report of French Congress of Urology. (Commenced in No. 88.)
37 (No. 91.) La réduction non-sanglante de la luxation congénitale de la hanche (Lorenz method). J. Gourdon.
38 Trousse auto-stérilisatrice d'urgence (emergency case). J. Parmentier.
39 (No. 92.) *De la pyélonéphrite gravidique. E. Rochard.
40 *Traitement du cancer par la methode du Prof. Adamkiewicz. A. Rénault.
41 *La respiration à forme cérébrale dans les infections digestives. Nobécourt. Abstract.

17. **Operative Treatment of Diffuse, Acute, Otogenic Purulent Meningitis.**—The two cases of this form of meningitis, cured by lumbar puncture and drainage above and below, reported by Lermoyez at the International Congress of Otology last fall, are here described in detail and four imperative rules formulated: The necessity for opening and draining the middle ear, with exploratory craniotomy if required, renders necessary extensive petro-mastoid evacuation, exposing the dura. If this proves ineffectual the dura must be opened with an X incision, and, if necessary, this be supplemented by exploratory puncture of the temporal lobe, not deeper than 4 cm. This will drain the lateral ventricle if distended by an encysted hydrops, or it may evacuate some latent cerebral abscess. Lumbar puncture should be made and repeated. The fluid should be withdrawn in quantities of at least 15 c.c. at a time. In one of the cured cases four punctures were made in nine days. This measure is useful for the prognosis, as well as for the relief it affords, the removal of the toxic fluid and the stimulation imparted by the reproduction of the latter. The fourth and final rule is to respect the labyrinth, even when it shows evidences of necrosis. In the 2 cases necrosis was observed, but no attempt was made to interfere, and the process gradually healed spontaneously after elimination of some sequestra. The middle ear healed completely with no evidence of disturbances in equilibration.

20. **Serum Treatment of Typhoid Fever.**—Chantemesse obtains the serum by injecting horses with soluble typhoid toxin. Since his first communication in 1897 his total mortality has been only 4 per cent. During the same period the mortality in the 14 other hospitals of Paris, under like conditions, has been from over 13 to 26.8 per cent., averaging 18 per cent., while in the Bastion 29 under his charge the mortality has been only 22 out of 545 cases, that is, 4 per cent. He cites Murchison, Griesinger, Curschmann, Harte and Flint to the effect that perforation occurred in 2.6 per cent. of the 8,160 cases of typhoid in their statistics. Perforation occurred in his material in 1.6 per cent., that is, in 10 out of the 545 patients; 2 were successfully operated on. The proportion of perforations in the fatal cases is larger than in other statistics, which shows that the serum does not materially reduce the danger of this complication after the lesions are once established. The serum must be injected early to prove efficient. No perforation was noted in any instance in which the serum was injected before the seventh day of the disease. It stimulates the defensive processes in the spleen, glands and bone marrow, but it requires the co-operation of the organism to cure. The principles of its administration are diametrically different from those of antidiphtheritic serum. With the latter, the longer the duration of the disease and the more severe, the larger the dose, but with the antityphoid serum, the sicker the patient, the smaller the doses should be. The serum treatment is combined with baths, as usual; in fact, the latter are particularly needed to control the slight reaction from the serum. Josias of Paris and Brunon of Rouen have used the serum in 220 cases and have witnessed a reduction of the mortality to a third of its former figure.

22. **Primary Mesenteric Thrombo-Phlebitis.**—Mignon reports a case with postmortem findings. The affection exhibits two distinct phases; in the first there are intermittent pains in the abdomen, alternation of constipation and diarrhea, and malaise, with or without temperature, corresponding to the degree of inflammation of the mesentery. The second phase is characterized by signs of intestinal occlusion, as the disturbance in the circulation of the mesentery paralyzes the intestine and entails gangrene at certain points. The seat of the pain, usually in the left flank, and the absence of distension of the large intestine are valuable hints. After several days of vague symptoms the second phase developed in the case reported, and the operation was undertaken on the tenth day, the diagnosis wavering between ileus and an insidious epithelioma. The patient succumbed in stercoremic coma within twenty-four hours. Three years before he had been under treatment for phlebitis of the left internal saphena, but otherwise was healthy.

24. **New Method of Testing the Stomach Functions.**—Meunier remarks that a substance for testing the stomach functions should not be absorbable through the stomach mucosa nor modify the elements of the gastric juice in their secretion nor dosage, while it should be capable of exact and rapid dosage and should form with the test meal a homogeneous mixture. Mathieu uses oil and Sahli uses butter for testing the stomach functions, but neither of these substances blend homogeneously with the stomach contents, while they modify decidedly the gastric secretions. Meunier believes that a small amount of iron added to the Ewald test meal answers all the above conditions. After the test meal of 60 gm. bread and 250 gm. water, he gives 30 c.c. of a solution of iron containing 1 mg. of iron to the cubic centimeter. This gives a proportion of 1 mg. iron to 10 c.c. of fluid in the stomach content. The motor proportion, that is, the proportion between the volume of the meal evacuated from the stomach and the volume ingested, varies in the normal subject between .7 and .9. The secretory proportion, that is, the proportion between the volume of pure gastric juice and the volume of the test meal evacuated, ranges in health from 1.2 to 1.5. Each stomach seems to have a constant composition for its own secretion. The variations in the acidity in a single subject seem to be merely apparent differences, probably due to the secondary secretion of Strauss, Pawlow and Aldor, or to dilution of the gastric juice. He follows the Mathieu-Remond technic for obtaining the diluted stomach content one hour after the test meal. The fluid is separated into two parts, one to be chemically analyzed, the other to serve for the color test for the iron. For example, 120 c.c. of fluid are found in the stomach after the test meal of 300 c.c., and colorimetric dosage of the iron in the stomach content shows that there are 4.8 mg. in the 120 c.c. of fluid. As each milligram of iron corresponds to 10 c.c. of the original test meal, we know that there can be only 10×4.8 mg., that is, 48 c.c. of the original test meal still in the stomach, and 300 minus 48 c.c., which equals 252 c.c., have passed into the intestines. The motor proportion is, therefore, 252 divided by 300, which equals .87 in this case. As 120 c.c. were found in the stomach, and as only 48 c.c. were due to the test meal, the remainder, 72 c.c., represents the pure gastric juice. The secretory proportion is, therefore, 72 divided by 48, which equals 1.5. In 57 subjects examined the results of these tests corresponded invariably with the clinical data and progress of the cases. He prepares the iron solution by dissolving 1 gm. of pure iron in 10 c.c. of hot distilled water to which 2 c.c. of pure sulphuric acid have been added. After it is dissolved he adds 2 c.c. of pure nitric acid. The solution is slowly evaporated to remove the excess of acid, and is then diluted with distilled water to 1,000 c.c. Part of the stomach content is mixed with from 8 to 10 drops of pure hydrochloric acid to each 20 c.c. of the fluid. Ten c.c. of this mixture are filtered on paper containing no iron and are heated to boiling, with 10 drops of pure nitric acid to peroxidize the iron. Distilled water is then added to bring the amount to 10 c.c. When cooled, 5 c.c. of a 1 to 20 solution of ammonia sulphocyanate are added and the filtered fluid is ready for color comparison with a 1 to 20 dilution of the mother solution given the subject. Ten c.c. of this solution are diluted with 5 c.c. of the ammonia sulphocyanate solution and the colorimetric test applied as usual.

26. **Blood Count in Surgery.**—Tuffier reviews the symptomatic value of the blood count during the operation, in infections and suppurations, in intestinal surgery, in cases of cancer, hydatid cyst, chronic glandular disease and in gynecologic affections. His conclusions are that examination of the blood has become an indispensable part of the surgeon's acquirements. It is liable to render the greatest services if the findings are interpreted at the bedside and in a wise and prudent manner. His experience has been that in case of cancer there is a marked and progressive reduction in the reds, paralleled by reduction in the hemoglobin, without much disturbance in the corpuscular value. There is also a hyperleucocytosis of from 10,000 to 15,000 with polynucleosis; 70 to 80 per cent. of the neutrophile polynuclears. The proportion of sugar in the blood is also increased, to 3 per 1,000 in some instances. These findings are not invariable, but when noted are presumptive evidence of cancer. The hyperleucocytosis occurs earlier, more constantly and is more considerable in sarcoma than with other tumors. As a rule, in his experience eosinophilia with a leucocytosis of 10,000 to 12,000, and a normal proportion of reds, or slightly above normal, were found with hydatid cysts; anemia with polynuclear hyperleucocytosis with cancer, and pronounced hyperleucocytosis with intense polynucleosis without anemia and without eosinophilia accompanied abscesses in the liver.

27. **Traumatic Separation of the Epiphyses.**—Kirmisson's long address on this subject was followed by a discussion in which Frolich called attention to the nervous complications that may follow separation of an epiphysis. These have included in his experience radial paralysis, atrophy of the muscles of the shoulder and cubital paralysis. Willems remarked that radiography is of little use in the diagnosis when the subjects are under 4, on account of the preponderance of cartilage in the part. Bardesco reported a case of separation of the lower epiphysis of the tibia in a child of 2. It was not reduced, and fourteen years later the leg was found 6 cm. shorter than its mate, while the femur was 5 cm. longer. Reboul has observed 2 cases in which the separated epiphysis had turned completely around, requiring incision and wire suture to restore it to place. Walther thinks surgical intervention should be the rule in recent cases. In 2 thus treated he found that the obstacle to reduction had been interposition of a fragment of bone or periosteum. Kocher urged the necessity for surveillance even after apparently perfect reduction. In one instance he found that the separation had recurred after reduction and apparent healing in a cast. The function of the limb did not seem to be impaired. Kirmisson reviewed the symptoms and diagnosis of separation of the lower epiphysis of the femur, upper and lower of the humerus, lower of the radius, upper of the femur and lower of tibia and fibula. The age and the site of the lesion near a joint should suggest the possibility of separation of the epiphysis. The after-results of such a lesion are still a matter of conjecture. Careful study of the cases, with radiography, watching them afterward for years, are the only means for determining the remote results of such an accident. Some of the epiphyses are more important than others in respect to growth later, especially the lower epiphysis of the femur, the upper of the humerus and the upper of the bones of the leg. The age has also a great influence, as the more ossification that has already taken place, the less the after-disturbances. At the same time, the nature and severity of the trauma, the intensity of the inflammation, defective reduction and extent of resection of bone are factors in the prognosis.

28. **Nail in Treatment of Femoral Hernia.**—Roux of Lausanne concludes the radical operation for femoral hernia by fastening Poupart's ligament with a double-pointed nail driven into the crest of the bone. He has been doing this for eight years, and in 56 cases, operated on more than three years ago, there has been recurrence in only 2. The total material thus

treated has been 130. If the opening is very large he uses two or three of the nails with a suture. None of the nails has worked loose. They are made of nickeled steel, and are quite long.

29. **Lever for Reduction of Congenital Dislocation of Hip Joint.**—Menciére of Rheims uses an apparatus, constructed on the principle of the lever, in reducing a congenital luxation. The force applied acts on the lever, not on the femur, and hence there is no danger of fracture.

30. **Pain in Case of Wandering Kidney.**—The pain may be continuous, or intermittent continuous, with exacerbations, or may occur in separate attacks. The subjects sometimes learn to put an end to these attacks by twisting the thorax in a certain way, which seems to restore things to place, as they say. The presence of a tumor in the lumbar region is sometimes the only means to differentiate these attacks from liver or kidney stone colics. The variation in the size of the kidney is the best sign, the tumor in the lumbar region during the attacks vanishing with their cessation. Another diagnostic aid is the examination of the blood for cholemia and segregation of the urine, which, repeated if necessary and the findings carefully interpreted, will solve the problem in dubious cases. The polyuria that follows the reduction of the tumor or the spontaneous cessation of the attack of pain is probably due to reflex excessive compensatory functioning of the normal mate.

31. **Color Cystoscopy.**—Czerny emphasizes the diagnostic importance of what has been named chromocystoscopy (intramuscular injection of 4 per cent. indigo carmin. See THE JOURNAL, xlii, page 69) combined with catheterization of the ureters or segregation of the urine.

32. **Urethroscope.**—Luys of Paris reports important results from the use of his urethroscope, which allows powerful topical applications exactly at the points in the bladder where they are needed, sparing the sound mucosa.

33. **Tuberculosis of the Kidney.**—The experience of Pousson of Bordeaux has been that the mortality in 9 cases treated by nephrotomy was 22.2 per cent., while it was only 1.58 per cent. in 19 treated by nephrectomy.

34. **New Symptoms of Pyelonephritis and Pyelitis.**—Baxy adds to the usual symptoms 3 others not described in the textbooks: nocturnal incontinence, sometimes superposed on nocturnal pollakiuria; a bladder-kidney reflex consisting in pain in the kidney when the subject has a desire to urinate, and, finally, pain on pressure of a point two finger-breadths from the median line above the horizontal ramus of the pubis, sometimes radiating toward the ureter.

35. **Decapsulation in Nephritis.**—Pasteau of Paris reported 5 cases which demonstrate that decapsulation is liable to prove a life-saving measure or, at least, prolong life in certain cases of parenchymatous nephritis or nephritis in cardiorenal subjects. It must be done while the organism is still capable of responding, before complete collapse of the means of defense, while oliguria still persists, with albuminuria or hematuria, and medical measures have proved ineffectual. Other speakers emphasized the benefits of nephrotomy or decapsulation in hematuric nephritis. Nephrotomy relieves the congestion, and decapsulation renders the relief permanent by providing a new circulation. These procedures have also a powerful algostatic, hemostatic and modifying action on the secretion of the kidneys. Pousson has had 3 patients with nephrorrhagia from nephritis, lithiasis or tuberculosis of the kidney cured by mere incision.

36. **Conservative Operations in Renal Retention.**—Albarran reports 4 cures in 4 subjects with renal retention. The ureter was found emerging from the pelvis at an abnormally high level. He resected the pelvic pocket below the opening into the ureter, leaving the latter intact and raising the floor of the pelvis to a level with the opening, cutting away as little of the kidney tissue as possible, but making it slope down to the opening into the ureter. In some of the cases he fastened the kidney to insure this slope.

39. **Gravidal Pyelonephritis.**—Rochard gives the clinical history of a case of extremely severe bilateral pyelonephritis in a woman of 30 in advanced pregnancy. The symptoms were so threatening that she was placed on the operating table, but at the last moment operation was postponed and she was normally delivered of twins ten days later, with immediate cessation of all the kidney symptoms. In Kendirdjy's statistics there were only 2 deaths in 62 cases of gravidal pyelonephritis. Expectant medical treatment is indicated, but if the physician's hand is forced, instead of operating on the kidney, premature delivery should be the rule, as the survival of the fetus is very doubtful in such severe cases. Cova has reported 21 cases in which nephrectomy was done, with resulting abortion in only 5. The danger of involvement of the second kidney is so great that it seems to be preferable to remove the cause, that is, the compression of the ureter by the distended uterus, rather than to attack the kidney.

40. **Cancroin Treatment of Cancer.**—Renault reviews the various communications published recently on this subject. His conclusions are that cancroin seems to have an unmistakable influence on the cancer, soothing the pain, lessening the physical signs, improving the general health and encouraging the patient, giving him a hope of cure. Whether it cures or not is another question, but it certainly prolongs life. Thirty-six cases have been reported this year as practically cured.

41. **Brain Symptoms in Alimentary Tract Infections.**—Nobécourt relates that infants affected with gastrointestinal troubles are liable to develop symptoms suggesting meningitis: strabismus, vomiting, Cheyne-Stokes respiration and a suggestion of Kernig's sign. Lumbar puncture shows the cerebrospinal fluid normal, and treatment of the digestive apparatus soon restored conditions to normal in his experience.

Revue de Chirurgie, Paris.

Last indexed page 1885.

42 (XXIV, No. 11.) Report of XVIIth French Congress of Surgery, Oct. 17-22, 1904. See abstracts 26-29 above.

43 Report of XXXIIIrd German Congress of Surgery, April 6-9, 1904.

Semaine Médicale, Paris.

44 (XXIV, No. 45.) *Rôle de l'hérédité en pathologie rénale. J. Castaigne and F. Rathéry.

45 Sur les maladies à trypanosomes. R. Koch. Abstract.

46 *La torsion incomplète du cordon spermatique. P. Lejars.

47 Unfermented Grape Juice for Cutaneous Affections. Hénon. Abstract.

48 *Interstitial Injections of Paraffin in Hay Fever. Brindel (Bordeaux). Abstract.

49 (No. 46.) *La dilatation idiopathique ou essentiale du colon. L. Chevalier.

44. **Heredity in Pathology of the Kidneys.**—Castaigne and Rathéry present clinical and experimental data and pathologic-anatomic findings which testify that infants born to mothers with diseased kidneys have morbid kidneys. This weakness in the kidneys is sometimes so pronounced that they are unable to functionate properly, and the infants succumb during the first hours or days of life. Examination of the kidneys of such infants has disclosed invariably pronounced diffuse nephritis. The infants with less severe disturbances survive but display a "renal debility," with a tendency to albuminuria at the most insignificant causes, and the same is observed in animals. The serum and amniotic fluid of women affected with nephritis contain nephrotoxins and the passage of these nephrotoxins from the mother to the fetus was abundantly proved in the researches. Every woman affected with nephritis has certain substances in her blood serum which are highly toxic for the kidney. As these substances pass readily from the mother to the fetus, the latter is thus being constantly laved in these nephrotoxic humors. They may be so powerful as to render the infant non-viable, or they may permit its survival, but with weakened kidneys, a candidate for kidney disease and its consequences later.

46. **Torsion of the Spermatic Cord.**—Lapointe has recently collected 43 cases of complete torsion of the spermatic cord and 7 of incomplete, recurring torsion. Mohr has also observed 2 cases of the latter and Lejars describes another. His patient was a young physician, robust and healthy, with the exception of a small left varicocele. About 10 a. m. one morning he was suddenly seized with intense pain in the sub-

umbilical region, growing progressively worse, localized along the spermatic cord and testicle on the left side. When seen an hour later the abdomen was found retracted, sensitive to pressure on the left side, the testicle swollen and red, the cord thick and extremely sensitive, and no trace of hernia. There was no tenesmus, the pain did not extend along the ureter, and the pulse was good. On the assumption of torsion of the spermatic cord hot fomentations were applied and morphin injected. In three hours the entire syndrome had subsided and there has been no recurrence of the trouble since. These incomplete, spontaneously curable forms of torsion can not be demonstrated anatomically. They may yield to external manipulations, but careful surveillance is necessary to prevent complete torsion with its sequence of hemorrhagic infarct of the testicle. Enderlen's experimental research has shown that the testicle may recuperate within sixteen hours, but if the torsion has lasted twenty-two hours, consecutive atrophy is inevitable. An operation may be indicated in case the attacks recur frequently, to prevent complete torsion.

48. **"Paraffinage" in Hay Fever.**—Brindel has treated 5 or 6 patients with hay fever by injection of paraffin under the mucosa of the turbinates as in the treatment of ozena. The induration that forms around the paraffin prevents access of blood and thus the excessive secretion in hay fever is permanently cured.

49. **Congenital Dilatation of the Colon.**—This is called Hirschsprung's disease in Germany, Mya's in Italy, and Chéinisse claims the priority for a French physician, Oulmont, who described it in 1843. He reviews the literature on the subject and mentions that simple fixation of the dilated loop, although theoretically inadequate, has given good results in practice in the hands of Woolmer and Trzebicky. Enteroanastomosis has also been successfully applied, but the operation of election sems to be colectomy, as a number of reported observations apparently establish. This intervention, however, should be restricted to severe, threatening cases after failure of dietetic measures and systematic efforts to control the constipation.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 1312.

50 (XXXI, No. 40.) *Ein Vorschlag zur Operation des Kryptorchismus. R. Ruff.

51 (No. 41.) *Die Ueberdrucknarkose mittels peroraler Intubation (plus pressure narcosis through a tube). Kuhn.

52 *Zur unblutigen Behandlungen cong. Hüftverrenkung (hip joint dislocation). A. Schanz.

53 *Intestinal Button.—Ueber einen neuen "Knopf ohne Naht" zur lateralen Anastomose, bes. zur Gastroenterostomie bei Karzinom. Jaboulay.

54 (No. 42.) Action of X-rays on Cancer Tissue and Cancer Parasites.—Die Einwirkung der Röntgenstrahlungen auf das Krebsgewebe und die darin enthaltenen Krebsparasiten. M. Schuller (Berlin).

55 (No. 43.) *Experimentelle Untersuchungen über die Wirkung der Radiumstrahlen auf tierische Gewebe und die rolle des Lecithins bei derselben (action of radium rays on animal tissue). R. Werner.

56 *Pessar zum Verschluss des Anus preternaturalis. von Kuester.

50. **Modification of Operation for Retention of Testicle.**—Ruff modifies the Katzenstein technic by suturing the inguinal canal in such a way that the seminal cord is compressed to a certain extent. This compression is only sufficient to induce slight venous congestion in the testicle. This makes it larger and heavier, which prevents its slipping back and, by the traction, gradually lengthens the seminal cord. He has operated in this way on one subject and the results are most satisfactory in every respect.

51. **Plus Pressure Narcosis Through a Tube.**—THE JOURNAL has described Kuhn's method of intubation through the mouth or nose, and the possibility of thus bringing the anesthetic into direct contact with the lungs while avoiding any action from it on the upper air passages. He is preparing a compendious work on the subject, and merely announces here that all surgeons agree in commending this method of narcosis. He has found that it is possible to combine this mode of administering the anesthetic with the plus atmospheric pressure used by Brauer and Petersen for intrathoracic operations, a modification of the minus pressure of the Sauerbruch air chamber. No chamber nor apparatus of any kind is needed, merely the long tube. It passes through a broad rubber band which covers the mouth airtight and fastens at the back of the neck. The nostrils are also closed airtight. The lungs and bronchial tree thus communicate solely with the long tube, and the chloroform can be easily applied. The tube is then connected with an oxygen tank to induce the plus pressure according to the Brauer-Petersen technic.

52. **Non-Operative Treatment of Hip Joint Dislocation.**—Schanz, in examining a child with this deformity, found that the luxation became spontaneously reduced when the thigh was brought over the abdomen in such a way that the axis of the femur crossed the umbilicus. He has since systematically used this technic. The assistant stands on the affected side and holds this side of the pelvis firmly pressed against the table. The operator, on the other side, draws the thigh up as described, placing the joint in flexion and adduction, and then exerts traction in the direction of the axis of the femur. Sometimes it is necessary to supplement the above by inward rotation of the thigh. Deep narcosis is not necessary. In older children it may be advisable to press on the trochanter in the direction of the axis of the femur. The head of the femur is thus replaced in the acetabulum, but it only lies loose there. In order to hold it there, the leg has to be placed in the retention position, as with the Lorenz and Hoffa technics, that is, in extreme abduction. This is painful and requires a trifle deeper narcosis. He then applies a plaster cast for from three to six weeks, and after its removal keeps the child in bed, but lets him use the leg as he pleases. When he begins to sit up in bed, a Heusner walking chair is supplied until he can walk alone. Any movements that might jeopardize what has been gained are inevitably painful for the child, and consequently he carefully avoids them. The results from this technic have been so far superior to what he had previously realized that Schanz commends it to the attention of all.

53. **Button for Gastroenterostomy.**—Jaboulay's button was illustrated in THE JOURNAL, xlii, page 1324. He has used it in 200 operations on the intestines. The mortality in 100 cases of carcinoma was only 18 per cent.

55. **Action of Radium Rays on Animal Tissue.**—Werner has been experimenting with capsules containing 10 mg. of radium bromid. He found among other things that the intensity of the physiologic action of the rays is not proportional to their fluorescence-inducing properties, nor to the duration of the exposure, but seems to obey certain very complex laws. Exposures of from sixteen to twenty hours cause changes in the tissues over an area from four to six times larger than the areas directly exposed. The penetration is not increased. Preliminary application of eosin did not seem to enhance the action of the rays to any appreciable extent. He found it possible, however, to enhance their action by preliminary brief, repeated freezing of the skin with ethyl chlorid or ether, by repeated dipping of the part in water at a temperature of from 49 to 51 C., by application of croton oil, by moderate, repeated venous congestion (the rabbit ear is a good object for these tests), by vigorous but brief and repeated expulsion of the blood from the part, and by repeated slight mechanical injury. These predisposing procedures must be repeated until the tissues become hyperemic and hypertrophied, with leucocyte infiltration. The exposures are then followed by a more prompt reaction, greater extension of the alterations and greater penetration. If the preliminary procedures are carried too far the tissues seem to become tougher and their susceptibility to the radium rays is lessened. It was found that the sores caused by exposure to the radium were very difficult to infect. Also that the radium was unable to disinfect already infected wounds. Lecithin was exposed for two or three days to the action of the radium rays and was then injected subcutaneously. There was only very slight local reaction and all traces of it soon vanished, but two or three days after the injection the spot presented the phenomena of a typical radium burn, passing through all the phases of redness, swelling, blister formation, and necrosis of the epidermis. These facts suggest that the action of radium is

essentially an intoxication from the products generated in the destruction of lecithin, in addition to disturbance of the assimilation by changes in the lecithin. This harmonizes with the fact noted that tissues in which leucocyte infiltration has occurred are especially susceptible to the radium rays. He queries, in conclusion, whether the exposed lecithin has an elective action on elements especially rich in lecithin. If so, this suggests its possible application in therapeusis of leucocyte infiltrations, tuberculides and malignant tumors.

56. Stopper for Artificial Anus.—Two soft rubber balls communicate with each other by a small, short tube. The smaller ball is inserted collapsed into the intestine, which brings the other ball close against the outside of the anus. The balls are then inflated, which plugs the opening completely and the balls keep their place and are held firm without a bandage of any kind. There is no undue pressure, and the subject can turn the stop-cock to let out the air and remove and replace the stopper without aid.

Centralblatt f. Gynäkologie, Leipzic.

Last indexed page 1128.

57 (XXVIII, No. 41.) Lipome des Bauches (of abdomen). Fritz Michel.

58 Moderne Bestrebungen der Prophylaxe des Puerperal-Fiebers. W. Bigwart.

59 Zur Verhütung der Blennorrhoea neonatorum nach Credé. Brunet.

60 (No. 42.) *Improved Technic of Extramedian Symphyseotomy.—Weitere Erfahrungen und Verbesserungen der subkutanen Hebotomie. A. Döderlein.

61 Cryoscopy of Maternal and Fetal Blood.—Ueber den Gefrierpunkt des mütterlichen und fötalen Blutes sowie der Amnionflüssigkeit. F. d' Erchia.

62 Midwife or Birth-helper?—Sollen wir die Bezeichnung Hebamme beibehalten?—Dahlmann.

63 (No. 43.) Mechanical and Physical Features of Delivery.—Die mechanische Begründung der Haltungsveränderungen und Stellungsdrehungen des Kindes unter der Geburt. H. Sellheim.

64 *Zur Berechnung des "absoluten Heilungs-Procentes" in der Carcinom Statistic. F. Waldstein.

65 Gynecology and Obstetrics at Naturforscher Congress, Sept. 18-24, 1904.

60. Improved Technic of Extramedian Symphyseotomy.—Döderlein is enthusiastic in his appreciation of Gigli's mode of sawing the pelvis, apart from the median line, as a safe and simple operation in case of contracted pelvis. He has performed the operation eight times, and has somewhat modified Gigli's technic. He prevents undue gaping of the wound by tying a rubber band around the pelvis. This allows the sawed surfaces to separate enough to allow the passage of the head, but no farther. After delivery, the rubber band is removed and strips of adhesive plaster applied circularly around the pelvis. He considers it advisable to prepare for this extramedian symphyseotomy in dubious cases, but not to undertake it unless, in the course of the delivery, it proves actually necessary.

64. Absolute Percentage of Cures in Carcinoma Statistics.—Waldstein proposes a simple formula by which the absolute percentage of cures may be determined. It will enable the remote results of various technics and operators to be accurately compared, and shows the fallacies of the present antiquated methods of comparative statistics. The formula is:

$$\text{Absolute percentage} = \frac{O\ (100 - M)\ D}{10{,}000}$$

O per cent. represents the proportion of operable cases; 100 per cent. minus M per cent. represents the per cent. that survived the operation, M per cent. representing the mortality percentage, and the remainder, after subtracting M. per cent. from 100 per cent., representing the survivors. D per cent. represents the percentage of permanent cures. O per cent. of all the cancer subjects are operated on. Of this O per cent., M per cent. succumb from the operation. That is, M per cent. of O per cent. succumb. Expressed mathematically this gives $\frac{MO}{100}$ per cent. The survivors are, therefore, $O - \frac{MO}{100}$ per cent. The permanent cures must, therefore, be a certain percentage of this last term. The absolute percentage of permanent cures will, therefore, be D per cent. of $O - \frac{MO}{100}$ per cent., which may be expressed: $\left(\frac{100\ O - MO}{100}\right)\frac{D}{100}$. This can be simplified to the formula first given above:

$$\text{A (absolute percentage)} = \frac{O\ (100 - M)\ D}{10{,}000}$$

By substituting L for the survivors (100 — M), the formula can be still further simplified to $\frac{OLD}{10{,}000}$

If the above factors (except the mortality) were the ideal 100 per cent., then the final absolute proportion of permanent cures would be the ideal 100 per cent.

Deutsche medicinische Wochenschrift, Berlin and Leipzic.

66 (XXX, No. 45.) *Nervous Affections Due to Wearing Out of the Nerves.—Die Aufbrauchkrankheiten des Nervensystems. L. Edinger.

67 Die Ätiologische Begründung der Pocken-Diagnose (of smallpox). Lypens.

68 Radikale Heilung des rachitischen und statischen Plattfusses mittels Sehnenplastik (tendon plastics for flat foot). I. Hevesi.

69 Die Rückbildung und Heilung der Myome durch Faradisation. E. Witte.

70 Ueber die Verwendung der Gummihandschuhe bei der manuellen Placentar-Lösung nebst Bemerkungen über die Ursachen der Retentio placentæ (use of rubber gloves). E. Wormser. (Commenced in No. 44.)

71 Ueber moussierende Sauerstoffbäder (foaming carbonated baths). L. Sarason.

72 Beteiligung der Armee an der Bekämpfung der Tuberculose als Volkskrankheit. F. Kasak.

73 Etwas über Methode und Lehrmittel für den Laien-Unterricht (for education of lay public). Döms.

74 Die Obliquus-Furche (groove). J. Stilling.

75 (No. 46.) *Immunisation of Cattle.—Ueber Immunisierung von Rindern gegen Tuberculose (Perlsucht) und über Tuberculose-Serumversuche. F. F. Friedmann.

76 Relations Between Tuberculosis of Birds and Mammals.—Die Gedügeltuberculose und ihre Beziehungen zur Säugetiertuberculose. L. Rabinowitsch.

77 Asthma und infektiöse Lungen-Leiden (Tuberculose, Pneumonie). Dungos.

78 Ueber nervösen Halsschmerz (pains in the neck). G. Boenninghaus.

79 Ueber Influenzarückfalle (relapses in grippe). E. Apolant.

80 Aronsonsches Antistreptococcen-Serum bei puerperaler Sepsis. Hoffmann.

81 Beitrag zur Geschichte der Gebärmuttermolen (history of uterine moles). Bergmann.

82 *Report of Cancer Research Committee.

66. Affections Due to Wearing Out of Nervous System.—Edinger reiterates his former assertions in regard to the origin of certain nervous affections. He is convinced that the demands resulting from the normal functioning of the nerves cause a wear and tear which is not always replaced by normal repair. The nerve fibers become used up and their elements are not duly replaced. The cells of the organism are balanced so nicely that none can be destroyed but the neighboring cells proliferate to excess or usurp the place of the weaker cell. Edinger accepts this as the cause of a very large number of nervous affections from the mildest professional neuritis to tabes, paralysis, optic atrophy, muscular atrophies and combined sclerosis. The group also includes the majority of congenital nervous affections. The close connection between these affections is readily demonstrable and is further established by the transitional forms observed. He gives a number of striking examples to sustain this view and also cites the results of experimental research which further corroborate his theory that functional use may under certain circumstances entail the destruction of nerve tracts.

75. Immunisation of Cattle.—Friedmann's announcements in regard to the value of turtle tubercle bacilli for rendering other animals immune to tuberculosis were summarized on pages 136 and 624 of vol. xlii. He has succeeded in rendering guinea-pigs immune to injections of virulent bacilli, and his experiments with cattle have been equally successful. A single injection confers a high degree of immunity on the cattle, and the turtle bacilli are apparently entirely harmless. These two points are the chief advantages of the turtle bacillus over others that have been used for this purpose. He describes experiences with prepared bovine serum, pig serum and guinea-pig serum in which he succeeded in protecting guinea-pigs by serum treatment against virulent infection.

82. Cancer Research Committee.—Von Leyden has founded a cancer dispensary on the principles of the tuberculosis dispensaries in vogue in France and elsewhere where the patients are taught the necessary hygiene and measures to take care of themselves and prevent contagion of others. The care over them is extended to their homes, families and even workshops. Special attention will be paid to *x*-ray and radium treatment

of cancer. Michaelis reported further successful inoculation of cancer in mice. Juliusburger has been sifting a life insurance material of 7,081 deaths from cancer during the fifteen years 1885 to 1899. The figures show that the number of cases of cancer among the well-to-do is much larger than among the working classes; also that the age limit is from 40 to 70 in the former and from 50 to 70 in the latter. The stomach and the genitalia are the most frequent sites. He was unable to detect any conclusive connection between trauma and the development of cancer. A hereditary tendency was apparent in 3 per cent. of the well-to-do subjects and in 18 per cent. of the others, the maternal influence being much more pronounced. There were more victims of cancer in good hygienic surroundings than in the reverse. Nothing was discovered in these thousands of cases that testified conclusively in favor of a parasitic origin.

Janus, Utrecht.

Last indexed XLII, page 274.

83. (IX. Nos. 1-2.) La pratique de l'ophthalmologie dans le Moyen Age Latin (during the Middle Ages). P. Pansier.
84. Paracelsus. Paul Schenk.
85. L'origine historique de la syphilis en Espagne (in Spain). L. Comenge.
86. Contribution à l'étude de la pathologie des races humaines. C. L. Van der Burg.
87. No. 3.) Die Regensburger Brillenmacherordnung (the Regensburg regulations for spectacle making). S. Neuburger.
88. Zur Geschichte der localen Diastole der Herzkammern (history). E. Ebstein.
89. Les maladies des pays chauds (tropical diseases). C. L. Van der Burg.
90. (No. 4.) Le médicin et la médecine dans la "Collection Hippocratique." L. Meunier. (Commenced in No. 3.)
91. Organisation des Unterrichts ueber Tropenhygiene und Tropenkrankheiten in Hamburg. D. Nocht.
92. La mortalité des enfants au-dessous d'un an en Norvège (Infant mortality in Norway). A. Johannessen.
93. (No. 5.) *Ein bisschen wort zur Prioritätsfrage Holmes-Semmelweis. S. Baruch (New York).
94. Zur Hygiene der alten Aegypter. E. Hagemann.
95. Prophylaxie du Beri-Beri. C. L. Van der Burg.
96. Zu den anatomischen Abbildungen des Vesal (the Vesalius-Da Vinci plagiarism). F. Jackschath.
97. (No. 6.) Die Heilkunst in China (history of medicine in China). (Commenced in No. 4.) R. W. Von Zaremba.
98. Medizinische Kulturgeschichte (medicine and civilization). J. Pagel.
99. (No. 7.) Aus Arnaldo Cantani's Jugendzeit (history of acetone). L. Kleinwachter.
100. (No. 8.) La transmission de la fièvre jaune et la prophylaxie. O. Reynaud. Report of French Yellow Fever Commission. See THE JOURNAL, page 983.
101. (No. 9.) *L'immunité héréditaire. Etude de pathologie comparée de généralisations et de races en stile lapidaire. O. Effertz. (Commenced in No. 7.)
102. Sonnenstich in Mexico (sunstroke). O. Effertz.
103. *Life Insurance for Northerners in the Tropics.—Die Lebensversicherungsfrage. L. Van der Burg.
104. (No. 10.) Erinnerungen an August Breisky. L. Kleinwachter. (Commenced in No. 9.)
105. Diphtheria in the Tropics. J. De Haan.

93. Priority in Prophylaxis of Puerperal Fever.—Baruch quotes from a recent important German work by R. Dorn, "History of Modern Obstetrics," 1903, which seems to settle the Holmes-Semmelweis priority question in favor of Holmes.

101. Inherited Immunity Instead of Inherited Predisposition.—Effertz has been traveling unfrequented paths the world around for more than twenty-five years, and has been particularly interested in studying the comparative pathology of different generations and races. He regrets that this study is so neglected. The more interesting a locality in this respect, the fewer the physicians and the lower the standard of their intelligence. Men with brains like to live in the cities, and there is no ethnologic originality to be found in the towns. And yet the present generation is the last one in which such ethnologic studies are possible, as races are blending so fast; succeeding generations will have to go to the libraries and museums to study them. He has been much impressed with the variations in the frequency and virulence of the affections noted among various races. Others have explained this by "inherited predisposition," but he thinks that a much better explanation is an "inherited immunization." His idea is that all infectious diseases have a tendency to diminish in virulence. Diseases pass through three phases: The miasmatic phase, that is, when they are transmitted by insects able to travel over considerable territory. Then, as they become less malignant, they can be transmitted only by direct contact, and we say they are "contagious." Then, as they become still less malignant, they require still more intimate contact for transmission, and we say they are "venereal." All infectious diseases are destined to disappear gradually from the earth, but they retire in good order, obedient to these laws of becoming more benign, more infrequent and more venereal. The cradle of a disease should be sought, therefore, in races which have passed through these stages and have acquired an inherited immunity, so that these races are most exempt from the disease. Immunization by saturation with the virus does not seem to impair the general health. "Nature strikes with her hand but cures with her feet." Effertz has been residing lately in a remote corner of tropical Mexico, and his articles on the amazing immunity of the natives to syphilis and to wound infections have been reviewed here (xlii, pages 745 and 988). Their bare legs always have some scratch or sore, and these small ulcerations in time have induced an immunity to wound infections. He thinks that their immunity to syphilis is also due to inherited immunization. There is an extremely mild venereal affection observed among them, and this, he thinks, is the relics of malignant syphilis in preceding centuries. It is liable to transmit malignant syphilis to foreigners. Diseases can be exterminated only by inherited immunization. This theory explains the successes of serotherapy. He urges other physicians to study these questions by races, generations and centuries. Nothing can be learned by study of a few individual families. He suggests a question blank as follows: Among what races do you practice? At what place? When did syphilis, smallpox, leprosy, malaria, whooping cough and measles first appear there? What is the virulence of these diseases among the indigenous race, among the Europeans and among other immigrated races? Do the natives go barefoot?

103. Life Insurance of Northerners in the Tropics.—Van der Burg reviews in detail the various findings in subjects who reside permanently or temporarily in the tropics, as bearing on the question of life insurance. Chronic diarrhea and psilosis exclude the candidates. Latent malaria may be revealed by a dose of sodium sulphate. If recovery is not complete there is usually fever afterward, readily suppressed with small doses of quinin. Special examination is required of persons returning to a temperate from a tropical region, with particular regard to the manner in which they bear the change, and also in examining for symptoms not encountered in the temperate climes. The companies should refer such candidates to physicians who have practiced in the tropics, and especially in the particular regions whence the candidate comes. Nothing will take the place of the intuition of practical experience.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A LABORATORY MANUAL OF HUMAN ANATOMY. By Lewellys F. Barker, M.B. Tor., Professor and Head of the Department of Anatomy in the University of Chicago and Rush Medical College. Assisted by Dean De Witt Lewis, A.B., M.D., and Daniel Grainberry Revell, A.B., M.D., Instructor in Anatomy in the University of Chicago. Illustrated. Pp. 583. Price, $3.00. Philadelphia and London: J. B. Lippincott Co. 1904.

THE ANATOMY OF THE BRAIN. A Study of the Human Brain from the Brain of the Sheep. A Manual for Students in Medicine, Biology and Psychology. By J. F. Burkholder, M.D., Professor of Anatomy in the Illinois Medical College. With an Introduction by Prof. Henry H. Donaldson, of the Neurological Laboratory of the University of Chicago. With 32 Full-page Plates (5 Colored). Cloth. Pp. 175. Price, $2.00, postpaid. Chicago: G. P. Engelhard & Co.

PROCEEDINGS AND ADDRESSES OF THE SEVENTH GENERAL CONFERENCE OF THE HEALTH OFFICIALS IN MICHIGAN, Ann Arbor, Mich., Jan. 7 and 8, 1904. Under the Auspices of the State Board of Health. Paper. Pp. 112. Lansing: Wynkoop Hallenbeck, Crawford Co. 1904.

PRACTICAL DIETETICS. Diet in Health and Disease. By A. L. Benedict, Buffalo, N. Y., Member American Gastro-Enterological Association. Green Buckram, Gilt Side Title and Top. Pp. 400. Price, $1.50 net. Chicago: G. P. Engelhard & Co.

FIRST BIENNIAL REPORT OF THE STATE HOSPITAL FOR EPILEPTICS at Parsons, for the Two Years Ending June 30, 1904. Paper. Pp. 18. Topeka: George A. Clark. 1904.

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